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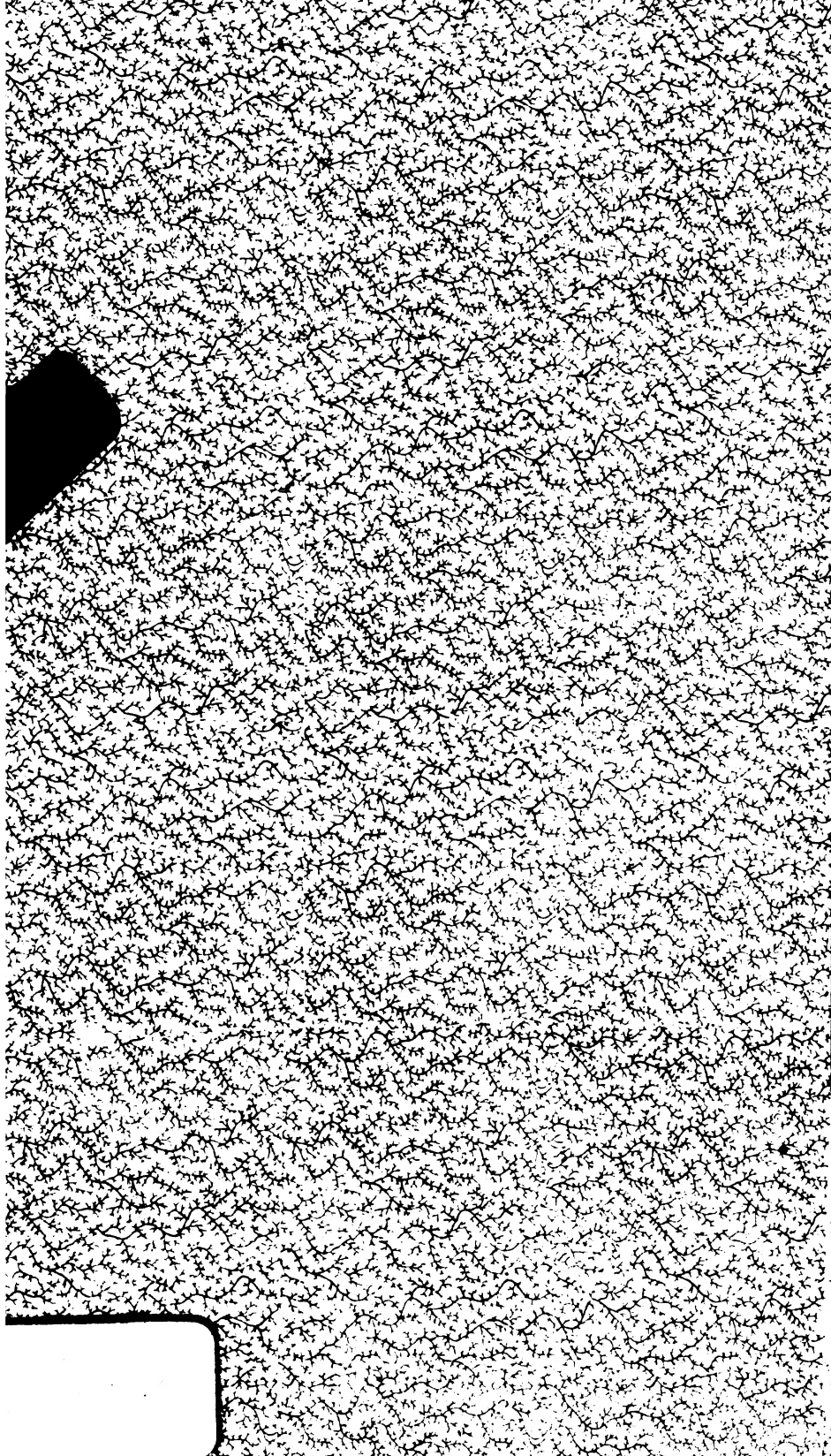
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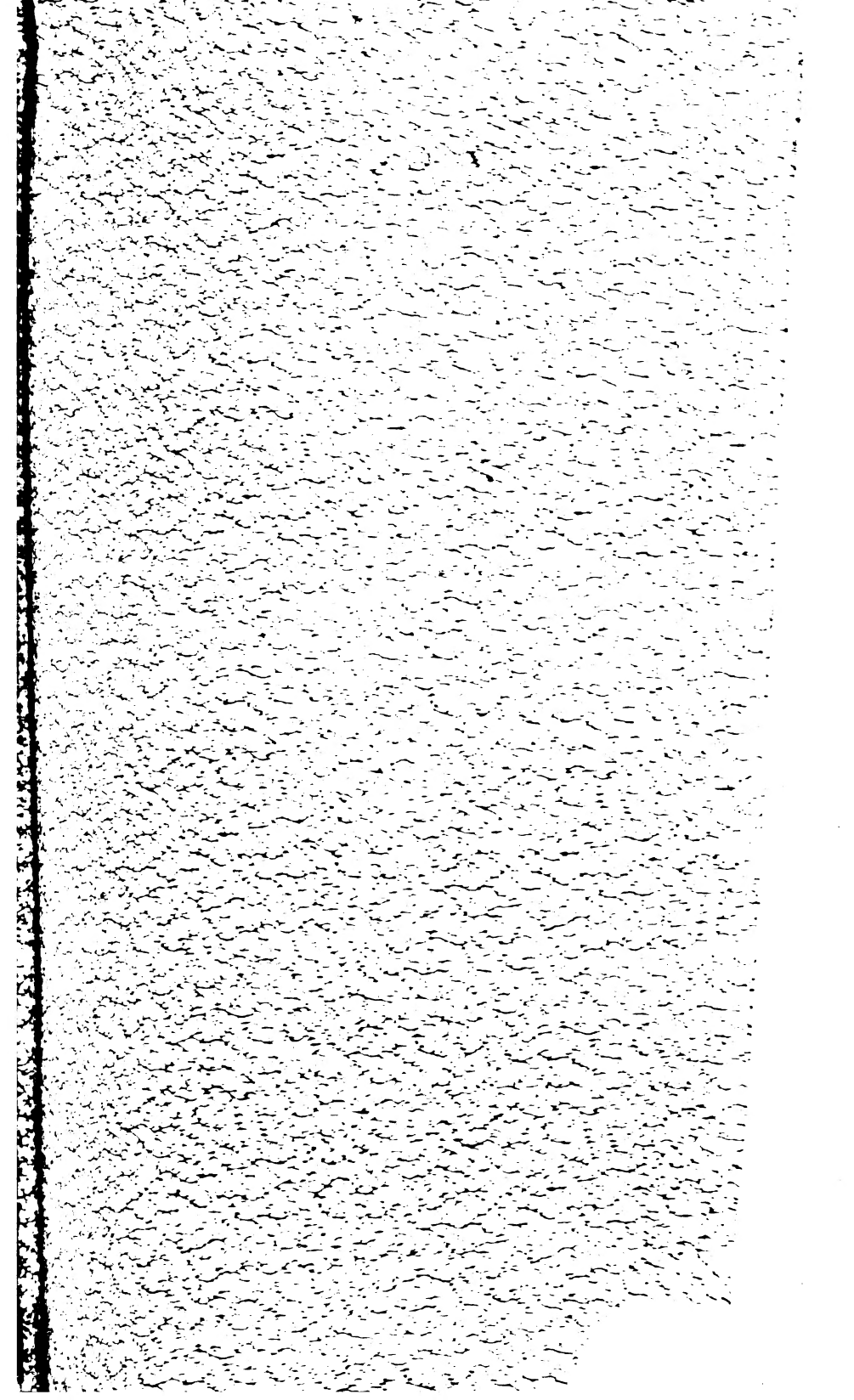
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McCallish



A DICTIONARY

GEOGRAPHICAL, STATISTICAL, AND HISTORICAL

OF THE VARIOUS

COUNTRIES, PLACES, AND PRINCIPAL NATURAL
OBJECTS IN THE WORLD.

BY

J. R. M'CULLOCH.

NEW EDITION, CAREFULLY REVISED,

WITH THE STATISTICAL INFORMATION BROUGHT UP TO THE LATEST RETURNS

BY

FREDERICK MARTIN

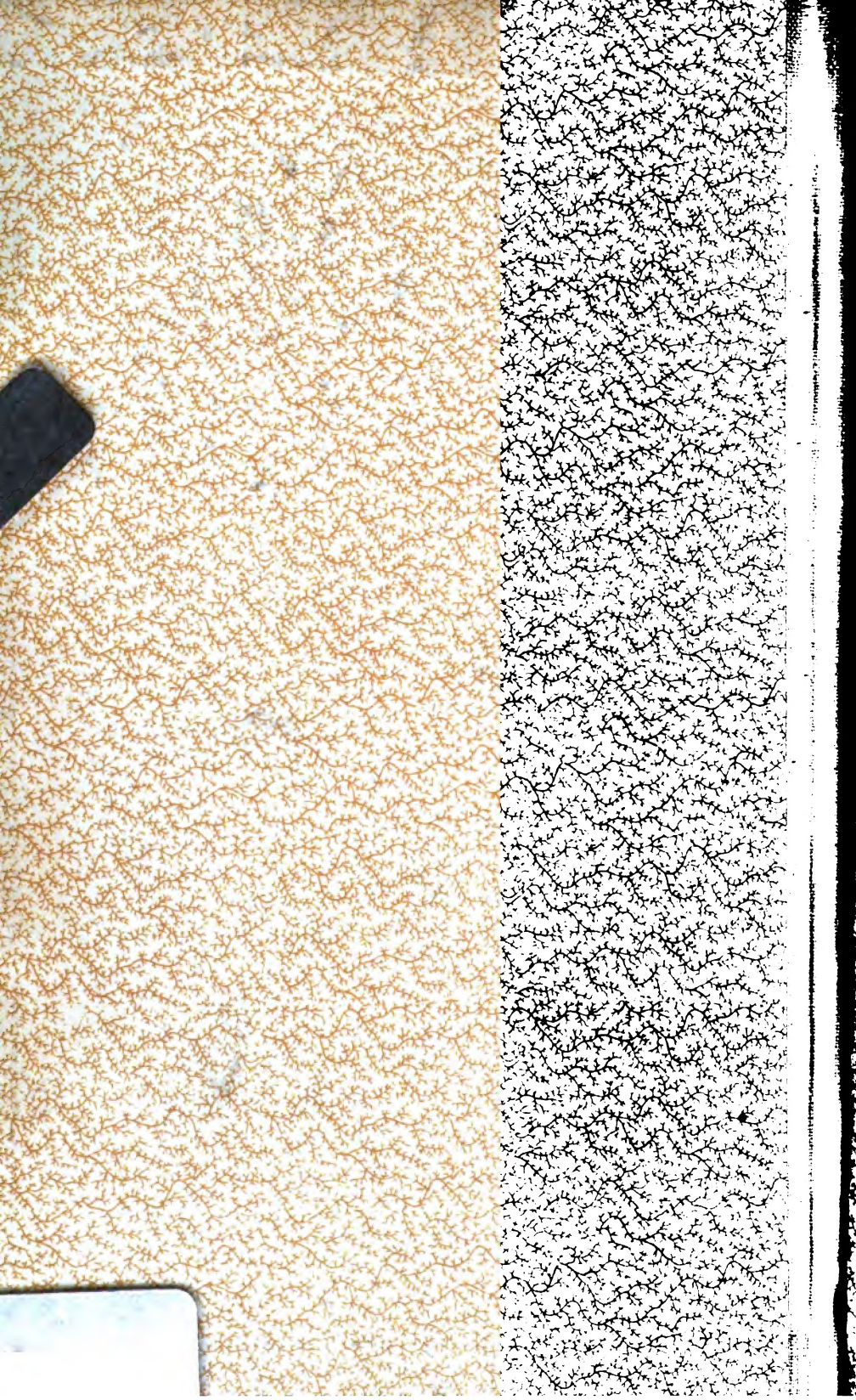
AUTHOR OF 'THE STATESMAN'S YEAR-BOOK.'

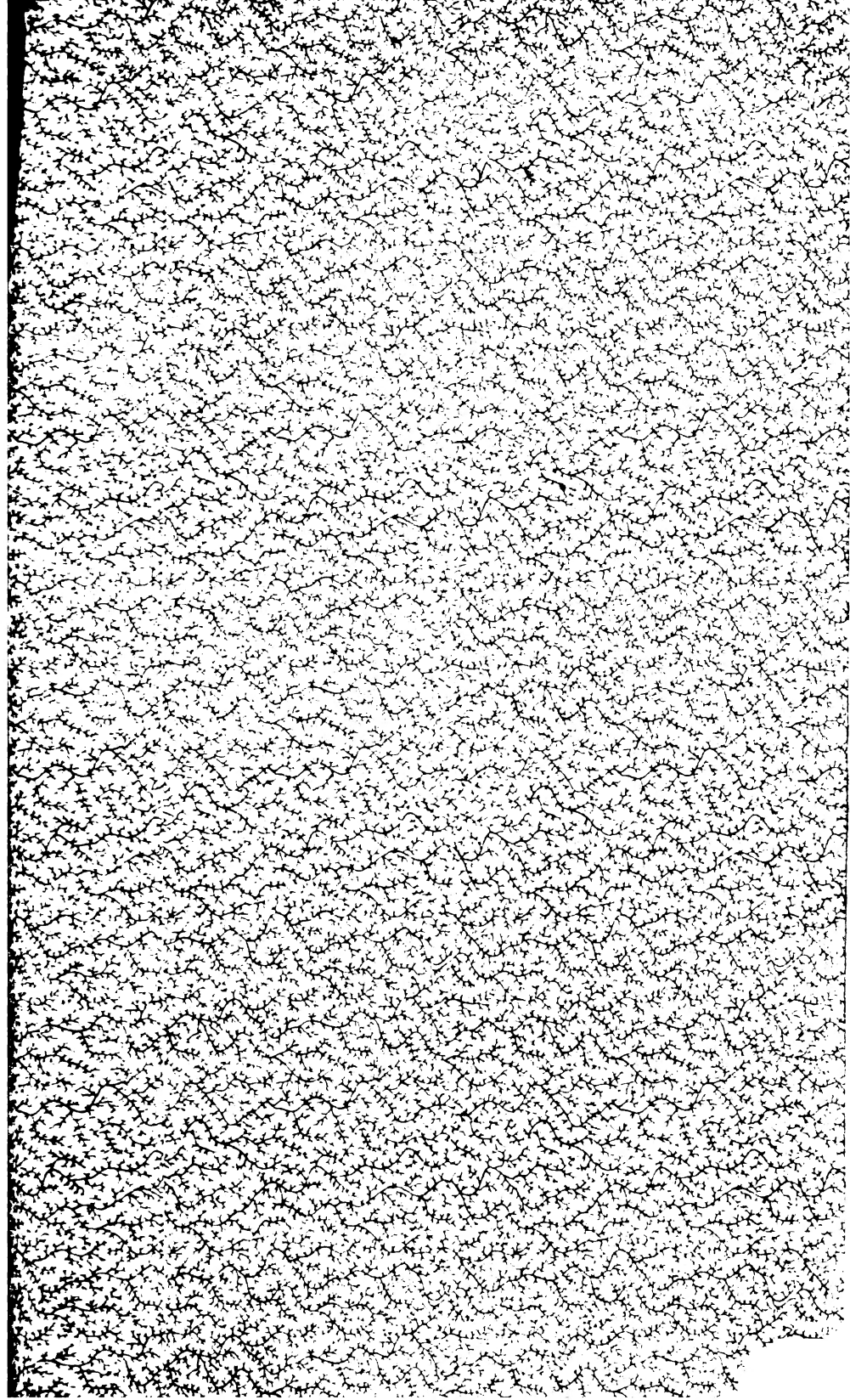


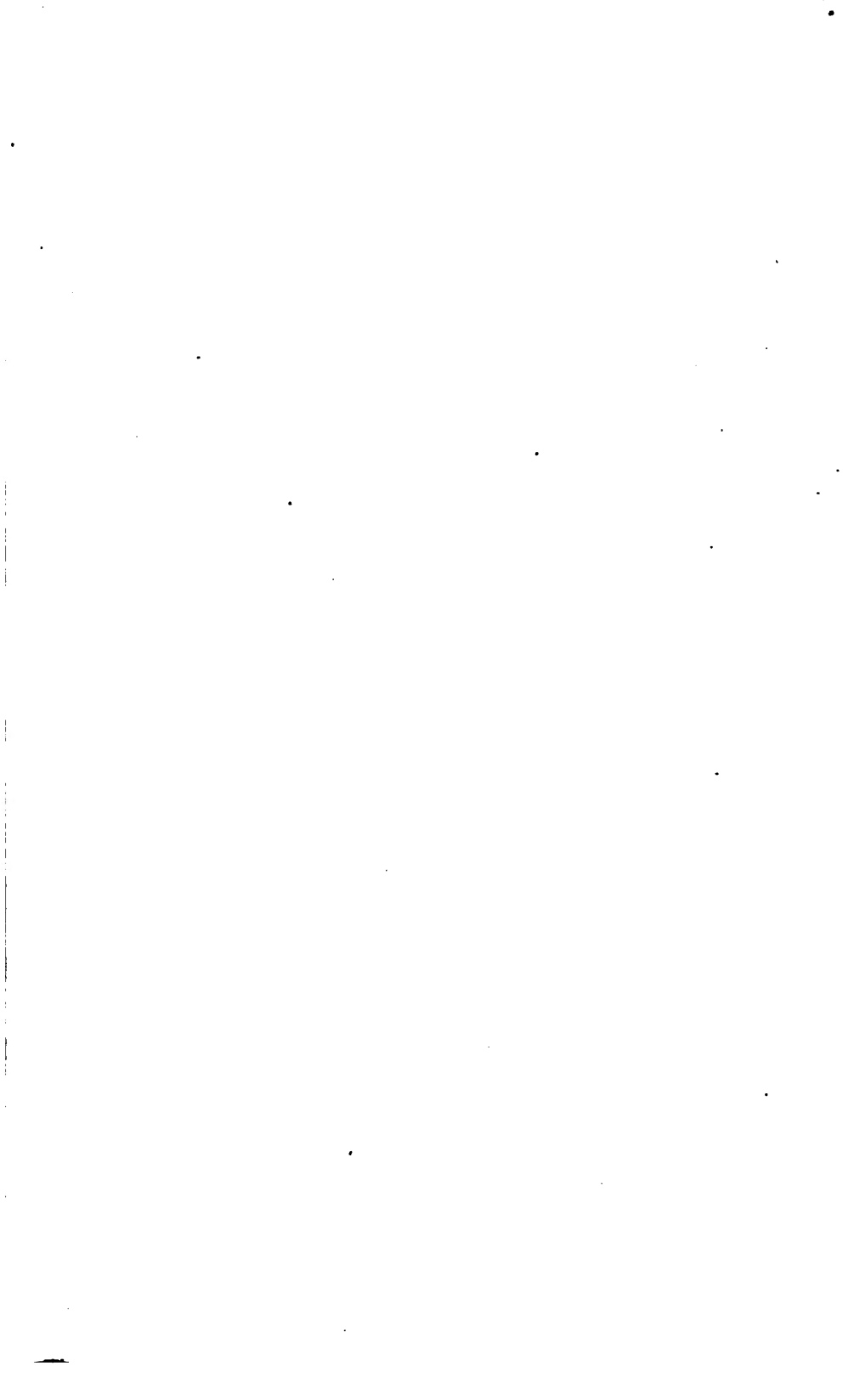
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1866.







McCall's



PREFACE

TO

THE REVISED EDITION.

IN this new and revised edition of Mr. M'CULLOCH's *Dictionary*, the changes have been marked which the world has undergone in the lapse of a quarter of a century. Short as is the time, these changes have been neither few nor unimportant. Whole kingdoms have disappeared from the political map of the globe; empires have refixed their boundaries, and nations have reformed their existence. In the course of less than a generation of men, an immense network of iron roads has come to encircle the civilised world; vast navies of commerce have been launched upon the ocean; and races the most distant have been brought together by the new agents of progress—steam and electricity. To register all these marvellous innovations, without altering the character of the *Dictionary*, has been the duty of the present editor, who must plead, in extenuation of sins of omission and commission, the last paragraph of Mr. M'CULLOCH's preface.

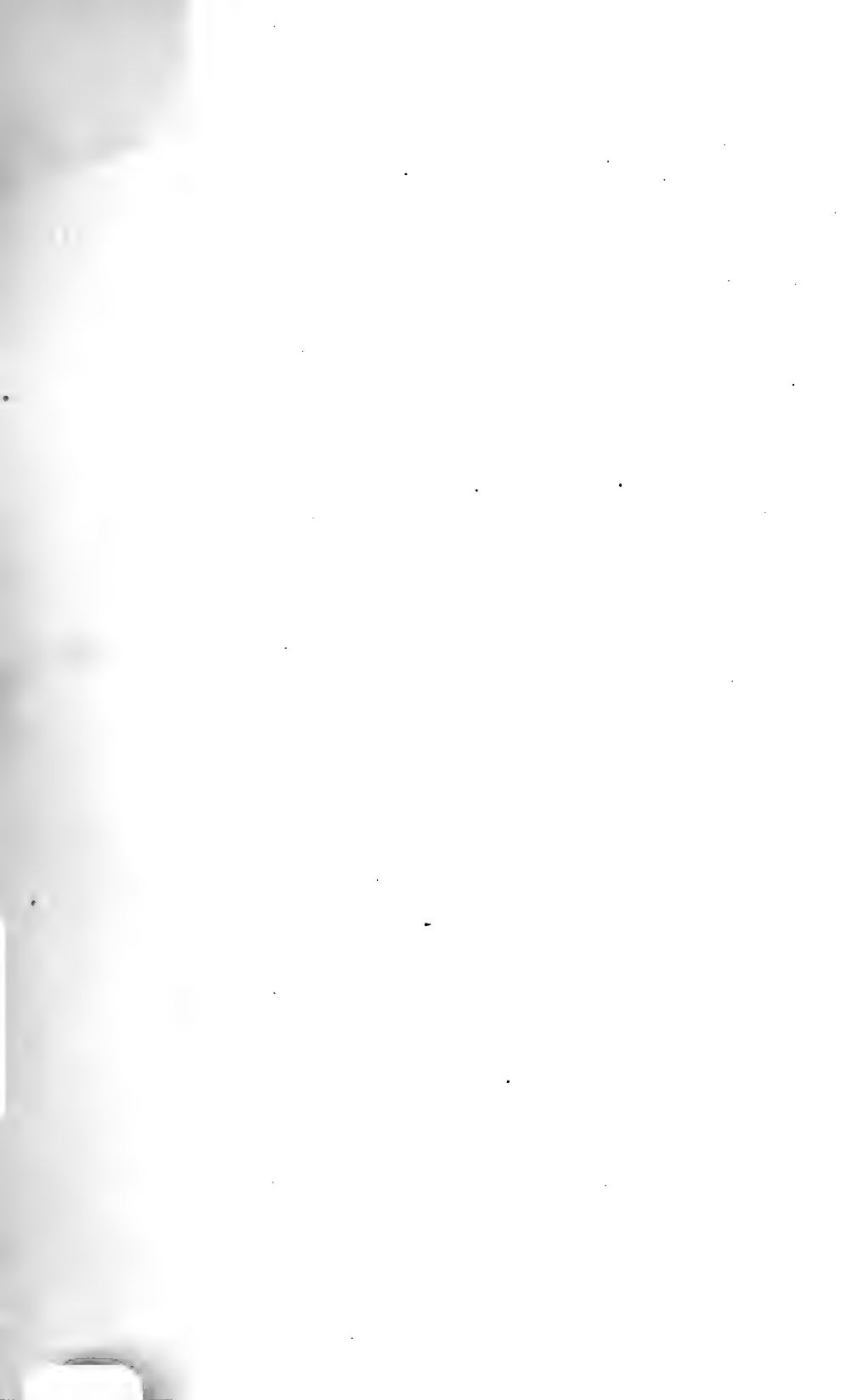
FREDERICK MARTIN.

LONDON: *January* 1866.

LIST OF MAPS.



1.	THE WORLD	to face title-page
2.	AFRICA	" page 27
3.	AMERICA, NORTH	" " 91
4.	AMERICA, SOUTH	" " 97
5.	ASIA	" " 197
6.	AUSTRALASIA	" " 259



A DICTIONARY

GEOGRAPHICAL, STATISTICAL, AND HISTORICAL.

A A

A A, the name of about forty small rivers in France, Switzerland, the Netherlands, and the states of Germany. The wide diffusion of the name seems to prove that it is derived from the old Teutonic word signifying stream, or, simply, water. Besides the forty rivers called Aa, there are a dozen more ending in this name. Such are the Hoopster-Aa, and the Ladberger-Aa, both in Hanover; the Bredevorder-Aa, in Holland; the Veile-Aa, in Denmark; and the Aal-Aa and Scholm-Aa, in Schleswig.

AALBORG, an old town of Denmark, cap. diocese and bailiwick, and the principal town in Jutland, situated about 17 m. from the sea, on the S. side of the channel of the Lymfjord, or great internal gulf, entering from the Cattegat, near where it begins to expand into an extensive lake. Lat. $57^{\circ} 2' 32''$ N., long. $9^{\circ} 56' 41''$ E. Pop. 10,070 in 1860. Aalborg is the terminal station of the railway from Teesburg to the north of Jutland, opened in 1865. The town is intersected by two small rivers, and surrounded by ditches; it is the seat of a bishopric, has a gymnasium or college, an episcopal library with 11,000 vols., a school of navigation, and an hospital and two workhouses. Exclusive of distilleries and breweries, it has manufactures of soap, fish-oil, fire-arms, refined sugar, leather, and silk, with a considerable amount of shipping and trade: principal exports corn, flour, fish, butter, and spirits. Formerly it was accessible to large vessels; but owing to the gradual filling up of the channel of the Lymfjord, it is now accessible only to the smaller class of merchantmen, or those not drawing more than 9 or 10 feet water. Aalborg means Eelctown; a name derived from the immense number of eels that are found in the waters in its vicinity.

AALLEN, a town of Wurtemberg, circ. Jaxt, cap. bailiwick, formerly a free imperial city, on the Kocher, 42 m. E. Stuttgart, on the railway from Stuttgart to Nuremberg. Pop. 4,272 in 1861. The town is surrounded by walls flanked with high towers; has manufactures of wool and cotton, and breweries. There are extensive forests in the environs, and iron mines.

AALSMEER, a village of Holland, E. side of the sea of Haarlem, 10 miles SW. Amsterdam. Pop. 2,680 in 1861. The village is famous for its strawberries, grown in immense quantities, for exportation.

AALTEN, a village of the Netherlands, Guelderland, $7\frac{1}{2}$ miles SSW. Groenlo. Pop. 6,038 in Vol. I.

AARGAU

1861. There are linen factories; also tanneries and oil-mills.

AAR, a river of Switzerland, the most considerable in that country after the Rhone and Rhine. Its principal sources are in the glaciers of the Schreckhorn and Grimsel mountains in Berne, near the source of the Rhone. Having united its different arms near Meyringen, it flows thence through the lakes of Brienz and Thun. Escaping from the latter, it takes a northerly direction till it reaches Berne; it then turns W. till having received its tributary, the Saane; it flows NE. by Aarberg, Soleure, and Aarau, till it unites with the Rhine, opposite to Waldshut. Its most important tributaries are, on the right, the Emme, Reuss, and Limmat; and on the left, the Saane, already noticed, and the Thiele. Its course is about 170 m. It becomes navigable on emerging from lake Thun. In the upper part of its course it dashes along with great fury, and is precipitated over several waterfalls.—Aar also is the name of two small rivers in Waldeck.

AARAU, a town of Switzerland, cap. cant. Aargau, on the Aar, 1,140 feet above the level of the sea, 23 m. SE. Basel, on the railway from Basel to Lucerne. Pop. 5,094 in 1860. The town is well built, has a gymnasium, a school of art, a *seminarium* or normal school for the instruction of teachers, a public or cantonal library, a society of national instruction, with manufactures of silk and cotton, a cannon foundry, and bleach-works. A station on the Central Swiss railway, from the Lake of Constance to the Lake of Geneva, opened in 1862, has done much towards increasing the manufacturing activity. The peace, which terminated the civil war of 1712, was concluded here.

AARGAU, or **ARGOVIA**, the 16th of the Swiss cantons, separated by the Rhine from Baden, having the canton of Zurich on the E., that of Lucerne on the S., and Soleure and Basel on the W. Area 502 sq. m. Pop. 194,600 in 1860, being 397 persons to the square mile; or, next to Basel and Geneva, the densest populated canton of the republic. The mountains in this canton do not attain to any very great height, and it possesses a considerable extent of fertile land. It is traversed by the Aar, whence it derives its name, and by its important tributaries the Reuss and Limmat. The country is well cultivated, and the produce of wheat and other grain exceeds the consumption: there are numerous vineyards, with abundance of garden and orchard fruit. The rearing of cattle

and sheep is not found to be productive, but they are advantageously fattened in the meadows, which are both extensive and excellent. Manufactures have made great progress. The principal is that of cotton, next to it is silk, and then follow linen, straw-plaiting, and the manufacture of machinery. Cottons are still in part woven in the cottages of the peasants or small labouring farmers. The canton is distinguished by the attention it has paid to education. Every district of 120 children must have at least one primary and one superior school. In every circle (*Bezirk*), the population being from 15,000 to 20,000, there are from five to six secondary schools. There is also in the capital a gymnasium, a school of arts, and a normal school for the instruction of teachers. The expense of the schools is defrayed partly by the communes and partly by the state funds. In the gymnasium and school of arts the state provides for the payment of fourteen professors and their assistants. About three-fifths of the population, namely, 104,167, are Protestants, and the rest Roman Catholics. The public revenue amounted to 2,136,000 frs., or 85,440*l.* in the year 1864. About one-half this sum is derived from state property. The cantonal contingent to the diet is fixed at 2,410 men. For an account of the government, see art. SWITZERLAND. Principal towns Aarau, Laufenberg, Baden, and Zoffingen.

AARHUUS, a sea-port town of Denmark, cap. diocese and balliwick of the same name, on the E. coast of Jutland, lat. 56° 9' 35" N., long. 10° 14' E. Pop. 11,009 in 1861. A railway, opened in 1864, connects Aarhus with Aalborg in the north, and the chief towns of Schleswig-Holstein in the south. The town is well built, has a large cathedral founded in 1201, a lyceum, a museum of antiquities, and a valuable diocesan library. Its commerce and industry have increased considerably of late years. The exports consist principally of agricultural produce; with spirits and beer, the produce of its distilleries and breweries; and cloth and gloves. Considerable sums have recently been expended on the improvement of its port, which has been rendered one of the best in Jutland. Packets sail regularly between it and Callundberg, on the west coast of Zealand.

AARONSBURGH, a small town of the United States Centre Co., Pennsylvania, 51 miles NW. Harrisburg, on the railway from Harrisburg to Pittsburg. Pop. 1,275 in 1860.

AASZY, the *Orontes* of Greek geographers, which see.

AATYL. A town or village of Syria, in the Haouran or Great Plain, extending S. from Damascus and E. from the mountains beyond Jordan, lat. 32° 15' N., long. 36° 33' E. The inhabitants consist of Druses (see *Libanus* and *Syria*), of the number probably of 200 or 300. Though now insignificant, the remains of ancient grandeur in its vicinity prove that Aatyl was once a place of importance. These remains occupy a circuit of a mile, and in many instances are inhabited by the present population. W. of the town a perfect arch of very fine workmanship, with broken pillars and friezes, marks the site of a small but elegant temple. On the S. another temple, almost entire, with a portico of four columns and an entrance beautifully and elaborately carved, has been converted into a private residence. Aatyl is 54 m. (direct distance) SSE. Damascus, and 48 m. E. Lake of Tabaria, the Genesareth of the Bible.

ABADEH, a large village of Persia, prov. Faristan, 115 m. N. Shiraz. Estimated pop. 2,000. It is surrounded by walls in a state of decay; and is defended by a large square fort, now containing the whole population. The ground in the neigh-

bourhood is very fertile, and intersected by numerous watercourses and rivulets. (Ussher, *Journey from London to Persepolis*, 1865.)

ABAKANSK, a town of Siberia, gov. Jenniseisk, on the Abakan near the Jenissei. Pop. 1,250 in 1858. On mount Isik, and other places in its environs, are found some of the most remarkable of those singular remains of former civilisation that are met with in many places of Southern Siberia. They consist principally of tumuli or tombs, which frequently contain ear-rings, bracelets, and other ornaments and utensils of gold, silver, and copper, with iron stirrups. Near Abakansk are statues of men from 7 to 9 feet high, and covered with hieroglyphics, of which unfortunately no explanation has yet been given.

ABANO or ALBANO, a village of Northern Italy, prov. Padua, 10 m. SW. Padua. Pop. 3,068 in 1861. This village derives its celebrity from its hot springs and *muds*. It is situated near the Euganean hills, in a place marked with some low eminences, whence issue copious springs of water capable at their source of boiling an egg quite hard. The waters are partly employed to prepare and soften mud, partly to supply the baths, and partly go to waste, or turn a mill which revolves amid volumes of smoke. They are supposed to be efficacious in cases of palsy, rheumatism, and a variety of complaints. The mud is applied hot to the affected part, somewhat after the manner of taking a stucco cast; and the baths are regarded principally as an auxiliary to the 'dirty' application.

These baths were well-known to, and much used by, the Romans. They were called *Patavinæ Aquæ*, the principal source being distinguished by the name of *Aponus fons*, whence their modern name has evidently been derived.

— *Aponus terris ubi fumifer exit.*

Lucan, vii. l. 194.

A branch line of railway places Abano in communication with Venice and Mantua.

ABB, a town of Arabia, in the Dжебел, or mountain land of Yemen, lat. 13° 58' N., long. 44° 15' E., 95 m. S. Sanaa, 73 m. NE. Mocha, and 104 m. NW. Aden. Number of houses said to be about 800, which at an average of 6 individuals to each gives a pop. of nearly 5,000. It is built on the summit of a mountain; is surrounded by a strong and well-built wall; and overlooks a well-watered (for Arabia) and extremely fertile country. Houses (as usual in the mountain towns of Yemen) of stone; streets well paved, which, in this country, is very uncommon. An aqueduct conveys water from a mountain at a little distance on the N. to a large reservoir in front of the principal mosque.

ABBEVILLE, a thriving industrious town, in the NW. of France, dep. Somme, cap. arrond. on the navigable river of that name, 25 m. NW. Amiens, on the railway from Paris to Boulogne and Calais. Pop. 20,058 in 1861. The town is neat and well-built; is regularly fortified on the system of Vauban; and has, exclusive of the old Gothic church of St. Vulfran, several public buildings worthy of notice and a public library. A fine cloth manufactory was established here in 1669, by a Dutchman of the name of Van Robais, under the auspices of Colbert; and Abbeville has ever since continued to be distinguished as one of the most industrious towns in France. Besides black cloths of the best quality, with serges and barracans, there are produced calicoes and stockings, sackings, packthread, cordage, and jewellery. It has also establishments for the spinning of wool, print works and bleaching works, tanneries, soap works, a glass work, and a paper manufactory. The tide rises in the Somme about 7 feet,

and vessels of from 200 to 250 tons come up to the town. Being situated in the centre of a fruitful country, and communicating by railway with all the most important towns of France and Belgium, Abbeville has a considerable commerce.

ABBIATEGRASSO, a town of Northern Italy, prov. Pavia, on the canal of Bereguardo, 14 m. WSW. Milan. Pop. 8,268 in 1861. The town is fortified; and its position has made it be always regarded of considerable importance in a military point of view.

ABB'S HEAD (ST.), a promontory on the E. coast of Scotland, being the most southerly point of the Frith of Forth, lat. 55° 54' 50" N., long. 2° 8' 20" W.

ABD-UL-AZIM, a village of Persia, at the foot of the hills in the neighbourhood of Teheran. Near it stands a lofty tower built of brick, in a very peculiar form, supposed to have been erected by order of the first of the Sassanian kings, in commemoration of a great victory over the Parthians. (Usher, Journey from London to Persepolis, p. 618.)

ABELA, **ABIL**, or **ABILA**, a town of Syria, in the Hauran, on the *Sheriat-el-Mandhour* (anc. *Hieromax*), one of the largest affluents of the Jordan, lat. 34° 47' N., long. 86° E. It is now in a ruinous and dilapidated state, having probably not more than from 100 to 150 inhabitants; but formerly it was a place of considerable importance, being the capital of and giving its name to one of the six departments (*Abilene*) into which the Romans divided the country E. of Jordan. Some broken pillars and overthrown columns evince its ancient grandeur; but none of its old buildings remain entire, and it is preserved from desertion only by its vicinity to the water, which renders it a desirable residence for the few Arab families by whom it is still occupied.

ABERBROTHOCK, or **ARBROATH**, a seaport, manufacturing town, and parl. bor. of Scotland, co. Angus or Forfar, at the mouth of the Brothock water, on the railway from Dundee to Aberdeen. Pop. 14,568 in 1841, and 17,598 in 1861. Arbroath unites with Brechin, Bervie, and Montrose, in returning a m. to H. of C. Parl. constituency 668 in 1864. It has a parish church and two chapels of ease, with churches for Episcopalians, Seceders, Methodists, and Independents. The other public buildings are the town-house, the trades-hall, the public schools, and the signal tower, which communicates with the Bell-Rock lighthouse distant about 12 miles. The town has a secure though small harbour, frequented, in the year 1863, by 458 vessels, of 81,042 tons. The corporation revenue, in 1863-4, amounted to 1,500*l*. The town owes its prosperity to the flax manufacture; nearly half the population being employed in the spinning, dressing, weaving, and bleaching of coarse linen goods. Some of the mills are driven by the little rivulet that intersects the town; but steam mills are numerous, both in the town and the vicinity. Here are the ruins of an abbey, founded in honour of Thomas à Beckett, in 1178, by William the Lion, who, on his death in 1214, was interred within its precincts. It was destroyed in 1560.

ABERCONWAY, or **CONWAY**. See **CONWAY**.

ABERDARE, a par. and large village of Wales, co. Glamorgan. The village, in a beautiful valley, watered by the Cynon, an affluent of the Taff, is about 4½ m. SW. Merthyr Tydvil on the Taff-Vale railway. Pop. of parish 6,471 in 1841, and 82,299 in 1861. This extraordinary increase is wholly to be ascribed to the increase in the production of iron and coal, on which by far the larger portion of the pop. is dependent. Throughout the parish,

immense quantities of coals are raised, not merely for the use of the iron works, but, also, for shipment at Cardiff. In addition to the par. church there are various places of worship, inc. chapels for Baptists, Independents, &c., with National, Sunday, and other schools.

ABERDEEN, a maritime co. Scotland, bounded N. and E. by the German Ocean, S. by the co. of Perth, Forfar, and Kincardine, and W. by Banff, Elgin, and Inverness. Extreme length 86 m. from N. to S., and 42 from E. to W. Area 1,260,800 acres, or 1,970 sq. m. In the south-western division, called the district of Mar, are some of the highest mountains of Scotland. Ben Macduh, till lately considered the highest of the British mountains, rises to the height of 4,296 feet above the level of the sea, and several of the other mountains are but little inferior in altitude. About a fifth part of the surface consists of high mountainous tracts; and these, with hills, extensive moors, mosses, and waste lands, occupy nearly two-thirds of the entire country. The arable land lies principally in the eastern parts. Principal rivers Dee and Don; and besides these are the Deveron, Bogle, Ythan, Urie, Ugie, &c. Limestone abounds in various places; there are quarries of excellent slate; and millstones are found of good quality. Vast quantities of granite are shipped at Aberdeen, particularly for London, where it is used in paving the streets. The mountains of Braemar contain numbers of coloured crystals, or cairngorms; and some real topazes have been met with. The winters, owing to the great extent of sea coast, are mild; but the summers are usually short and cold. Agriculture is prosecuted with much more spirit and success than might have been supposed. Oats is the principal crop, about 160,000 acres being sown with that grain; barley is also raised; and some, though only a little, wheat. The culture of turnips and potatoes is extensively carried on. Several thousand acres of land in the vicinity of Aberdeen have been trenched. The practice is not, however, confined to that district, and large additions are being constantly made to the arable land. Farm houses and offices are now, with few exceptions, comfortable and commodious. A greater number of cattle are bred in this than in any other Scotch county: the native breed is preferred. They have increased much in size during the last forty years. They are commonly black, but there are many red or brindled. Sheep comparatively few, and of a mixed breed. There are some large estates; but property is, notwithstanding, a good deal subdivided. Great diversity in the size of farms. It is usual for mechanics to occupy an acre or two. The woods, which are very extensive, afford shelter to the red deer. Average rent of land 6s. 9d. an acre. The woollen, cotton, and linen manufactures are carried on to a considerable extent, principally at Aberdeen. There are considerable fisheries on the coast and in the rivers, particularly in the Dee. Principal towns Aberdeen, Peterhead, Huntly and Fraserburgh. Parishes 88. Pop. in 1841, 192,387, in 1861, 221,569; inhabited houses in 1861, 32,762. Returns one member to the House of Commons. Parl. constituency in 1863, 4,210. Valued rental, 225,665*l*. Scotch. Annual value of real property in 1815, 825,218*l*. stg., do. in 1843, 608,968*l*. stg., do. in 1864-5, exclusive of railways, 629,675*l*.

ABERDEEN the cap. of the above co., and the seat of a university, an ancient, distinguished, and flourishing royal and parl. bor. and seaport, situated mostly on rising ground on the N. bank of the Dee, near its mouth, 94 m. NNE. Edinburgh, on the Great North of Scotland railway.

Pop. in 1821, 44,796; in 1831, 58,019; in 1841, 61,923; and 73,805 in 1861. Aberdeen consists of the parishes of East, Greyfriars', North, St. Clement's, South, and West; also part of the parish of Old Machar, 12,514. There were, in 1861, according to the census returns, 3,869 inhabited houses, and 14,224 separate families. Aberdeen acquired importance at an early period, and made a conspicuous appearance in many of the stormy scenes of Scottish history. It received a charter from William the Lion, dated Perth, 1179; and the journals of the town council have been preserved nearly entire since 1398. It is indebted to Robert Bruce for a considerable portion of its property. Having suffered a good deal in the civil wars during the reign of Charles I., it continued in a nearly stationary state till about 1750, when it began to increase. It has since been signally improved, especially during the present century, by the formation of new streets and squares, which have superseded most part of its old narrow and winding thoroughfares. From the S. Aberdeen is approached by three bridges across the Dee; one of 7 arches of stone, originally erected in 1520-26, and rebuilt 1719-23; a suspension bridge of iron, opened in 1830; and the railway bridge of 8 arches opened in 1850. The roads from the first two bridges conduct to Union Street, which with Union Place and Castle Street, in the same straight line, form a magnificent street of about a mile in length, the houses all of dressed light-gray granite. This street is carried over a deep and partly wooded ravine by a bridge of a single arch of 182 feet span, opened in 1804. Among the public buildings may be specified the assembly rooms, the town-house, court-house, gaol, and new market; the E. and W. churches of St. Nicholas, the N. church, and others of late erection; St. Andrew's episcopal church; the orphan hospital; the barracks, on the castle hill, formerly the site of a fort; Gordon's hospital, bridewell, the infirmary, medical hall, and Marischal College, lately rebuilt on an extensive and elegant plan. Besides the latter seminary, there are various public and private academies and schools, among which is the grammar school, established before 1418. There are numerous charitable establishments and endowments, upwards of 70 being under the management of the magistrates, the net revenue of which amounted in 1848 to 3800*l*. Gordon's hospital supports and educates 150 boys, and has an annual revenue of about 8284*l*. Here is also an infirmary, with a lunatic asylum erected at an expense of upwards of 10,000*l*; an institution for deaf and dumb persons; a large hospital for girls, and one for the education and support of the blind. The value of real property amounted to 179,072*l*, while the corporation revenue was 11,376*l*. in 1863-4.

Aberdeen occupies a distinguished place both in the manufactures and commerce, and in the literature, of Scotland. During last century, the town and adjoining country were celebrated for the manufacture of knit woollen stockings, of which an interesting account is given by Pennant. (Tour in Scotland, i. 187, ed. 1790.) But the introduction of machinery has superseded that employment. There are now, partly in the town and partly in its immediate vicinity, numerous large factories for the spinning and weaving of cotton, flax, and wool, in most of which steam power is employed. The woollen fabrics comprise carpets, blankets, serges, stockings, and worsted yarns. Extensive iron-works have been established, where steam-engines, anchors, chain-cables, and spinning machinery are produced. Paper of the best quality is made on a large scale, considerable quantities having been purchased of late years by govern-

ment. Ship-building is carried on to a considerable extent, and there are rope-works, tanneries, soap and candle works, comb factories, distilleries, breweries, &c. The principal natural products exported are cattle; salmon, sent to London in ice; granite, with which the streets of the metropolis are mostly paved; eggs, butter, pork, and corn. The total value of the exports amounted to 21,236*l*. in 1859; 23,062*l*. in 1860; 5,619*l*. in 1861; 14,111*l*. in 1862, and 11,836*l*. in 1863, thus showing enormous fluctuations. The total amount of customs duty received was 97,251*l*. in 1859; 93,833*l*. in 1860; 92,715*l*. in 1861; 92,963*l*. in 1862; and 82,839*l*. in 1863. The general shipping, in the year 1863, comprised 148 British vessels, of 25,615 tons, and 147 foreign vessels, of 18,057 tons, which arrived in the port. Only one steam vessel, 269 tons, was registered in the arrivals. There belonged to the port, on the 1st of January, 1864, 7 sailing vessels under 20 tons, of a total burthen of 248 tons, and 244 sailing vessels above 50 tons, of a total tonnage of 77,192. There were also 5 steamers under 50 tons, of a total tonnage of 86; and 11 steamers above 50, of a total burthen of 8,287 tons. There is a regular communication by steamers with London, Leith, Peterhead, Inverness, and the Orkneys.

The harbour in the estuary, at the mouth of the Dee, labours under considerable natural disadvantages, which, however, have been to a great extent, though not wholly, obviated. Its improvement began under an act obtained in 1778; and it has been prosecuted at intervals, with more or less vigour, under that and other acts down to the present time. The principal object was to facilitate the access to the harbour, by removing the bar at the mouth of the river, and deepening its channel; and this has been effected partly by dredging, and partly by the erection of a pier about 2,000 feet in length, projecting into the sea on the N. side of the river, by a breakwater on the opposite shore, and other subsidiary works. The interior of the harbour has been vastly improved. In it, some years ago, were constructed a magnificent wet dock, or floating harbour, the area of which comprises 84 acres, with locks capable of admitting the largest steam-ships. The quay walls and quays are all of granite; the work being executed in the best and most substantial manner. Still, however, the harbour is not accessible at all times of the tide to vessels drawing above 10 feet water. But, as the tide rises from 18 to 16 feet, vessels drawing 17 feet water may enter the harbour at high-water neaps, and those drawing 20 feet, at high-water springs. There are at an average 18 feet water in the floating harbour. The bay affords safe anchorage with off-shore winds, but not with those from the E. or NE. A lighthouse has been erected on Girdle Ness, the S. point of the bay, having two fixed lights in one tower, the highest being 185, and the lowest 115 feet above high-water; there is, also, a tidal light on the N. pier-head, and two leading lights further up the harbour on its S. side. The affairs relative to the harbour are managed by a board of commissioners. There has in all been expended on the harbour, since 1810, above half a million sterling.

In consequence of this heavy expenditure, and of the large outlay in opening new streets and constructing bridges, the affairs of the borough became so much involved as to lead to its disfranchisement, in 1817. But, in the end, the corporation, having been restored, was enabled to meet all the demands upon it; and for several years its affairs have been in good order, and it has enjoyed a full share of credit. The burgh revenue, as be-

fore stated, amounted to 11,376*l*. in the financial year 1863-4.

Previously to the passing of the Reform Act in 1832, Aberdeen was associated with Arbroath, Brechin, Bervie, and Montrose in returning a member to the H. of C.; but that act conferred this important privilege on Aberdeen singly. Old Aberdeen and a considerable tract of the surrounding country is included within the parl. bor. The parl. constituency consisted of 3,827 registered electors in 1864. The town is governed by a provost, 4 bailies, and 14 councillors. The municipal constituency in 1864 consisted of 2,825 registered electors.

Aberdeen is connected by a canal, 18½ m. in length, with Inverury, and by railway with Montrose, Perth, Edinburgh, and Inverness. The canal is chiefly used for the conveyance of heavy articles, such as granite, to the town, and of coal, manure, &c., to the country.

Aberdeen has three large banking companies, the oldest of which, the Aberdeen Bank, established in 1767, had recently 16 branches, and about 450 partners; but in 1849 it was incorporated with the Union Bank of Scotland. The other companies, viz. the Aberdeen Town and County Bank, and the North of Scotland Banking Company, have respectively 13 and 32 branches. The latter has about 1500 partners. The Bank of Scotland and some of the other Scotch banks have also branches in Aberdeen.

A regular post was established between Aberdeen and Edinburgh, in 1667. The first printing-press in the town was set up in 1621; and the first almanacks published in Scotland appeared here in 1677. It supports several newspapers, the oldest of which, the Aberdeen Journal, commenced in 1748.

ABERDEEN (OLD), an ancient and considerable city, about 4½ m. N. Aberdeen. In former times it was the seat of a bishoprick, the see of Mortlach having been removed to it, in 1154. It has no trade, and very little property, its importance depending entirely upon its college. Pop. about 2000, inc. in the pop. of Aberdeen. The chief edifices are King's College, the cathedral, and the bridges across the Don. The buildings of King's College have an antique appearance, and are of different periods, but in good repair. The library and chapel are attached to a lofty square tower, surmounted by an imperial crown of open stone work. The cathedral of St. Machar, or Macarius, after whom the parish is named, is an ancient Gothic edifice, chiefly of granite, commenced in the 14th century: the choir, transept, and great central tower were demolished or fell down upwards of a century ago; the nave remains, and is used as the parish church; at the west end are two finely proportioned stone spires; the roof of the interior is also a curious relic. Near its mouth the Don forms a haven, which, however, admits only vessels of a few tons' burden. An ancient bridge, consisting of a Gothic arch, 70 feet in span, crosses a rocky and woody ravine in which the river flows. Lower down is a new bridge of 5 arches, opened in 1830.

University.—Aberdeen has a university, with two colleges. There were formerly two universities, but they were incorporated into one by the Scottish University Act of 1858. Of the two colleges, the most ancient is that of Old Aberdeen, founded by Bishop Elphinstone in 1494, under a bull of Pope Alexander VI., of which Hector Boethius was first principal. It early received the name of King's College, instead of that of the Virgin Mary, to whom it was originally dedicated. The other and later seminary, established in 1593, is called Ma-

rischal College, from its founder George Keith, Earl Marischal. The university has now 21 professors and above 600 students. There are 8 scholarships of 65*l*. each, and about 200 bursaries of from 5*l*. to 80*l*. each. Although their bursaries are numerous, their other revenues are but limited. King's College was formerly entitled to copies of all works entered at Stationers' Hall; but in 1836, it relinquished this privilege for an annual payment of 242*l*. 14*s*. Marischal College has a museum, an observatory, and an extensive apparatus for teaching natural philosophy. The excellent education given in these seminaries has been highly useful in disseminating knowledge over the N. of Scotland; particularly in improving the character of the parochial schoolmasters, most part of whom, having been at college, are superior to the generality of their brethren in the southern parts of the country. The number of bursaries, which are mostly disposed of by comparative trial, is an inducement to attend. But independent of this circumstance, the cost of education is moderate in the extreme. The usual fee entitling to attend one of the literary classes is only from 2*l*. to 8*l*.; and the total annual fees paid by a student, not a bursar, going through the regular curriculum, or course of study prescribed by the faculty of arts, do not exceed 6*l*. or 7*l*. a year, during each of the 4 years to which it is limited. Respectable board may be had for from 25*l*. to 35*l*. during the session, which commences on the last Monday of October, and ends in the beginning of April. Many eminent men have been professors in these colleges; among whom may be mentioned Reid, the author of the Inquiry into the Human Mind; Fordyce, author of a Treatise on Moral Philosophy; Gerard, author of an Essay on Taste; Campbell, author of the Philosophy of Rhetoric; and Blackwell, author of the Life of Homer.

ABERFOYLE, in Scotland, a parish, and a celebrated pass or narrow valley leading into the Highlands, in the district of Monteith, in the SW. part of Perthshire. Pop. 565 in 1861. The village or clachan of Aberfoyle in this pass is the scene of some of the most interesting adventures in the novel of Rob Roy.

ABERGAVERNNEY, a town of England, co. Monmouth, at the confluence of the Gavenny with the Usk, 14 m. SW. Monmouth, 120 m. W. by N. London, on a branch line of the Great Western rail. Pop. 4,621 in 1861. The town is built in a straggling manner; has a fine bridge of 15 arches over the Usk, and some branches of woollen manufacture. There are very extensive iron works in the vicinity. On an eminence, near the S. end of the town, are the ruins of its ancient castle.

ABERGELEY, a sea-port and m. town of Wales, co. Denbigh, hund. Isdulas, on the railway from Chester to Holyhead. Pop. 3,308 in 1861. The town has been considerably resorted to of late years for bathing.

ABERNETHY, a parish of Scotland, partly in Fife and partly in Perthshire. It was once the seat of an archiepiscopal see, removed to St. Andrew's in the ninth century. All that now remains of its ancient structures is a round tower 75 feet high, and 16 in diameter. The modern village of Abernethy is small, and the houses mean. Pop. of village 984, and of parish 1,960, in 1861.

ABERYSTWITH, a sea-port town of Wales, co. Cardigan, at the mouth of the Ystwith, over which is a neat bridge, 178 m. WNW. London. Pop. 5,641 in 1861. It stands on an eminence overlooking the bay; and the streets, though well paved and Macadamised, are steep and uneven. It is a place of considerable trade, exporting lead, calamine, oak bark, flannels, &c., mostly to Liver-

pool; but owing to the shallowness of the water, it is accessible only to small vessels. As there is no market town within 18 m. it has the supply of a considerable adjacent territory. Latterly it has been extensively resorted to in summer for sea-bathing. Public rooms were opened for the accommodation of visitors in 1820, and a new theatre in 1833. It seems to have been once strongly fortified. Its castle, of which some vestiges still exist, was rebuilt by Edward I. in 1277. A considerable extent of fen land to the N. of the town has recently been recovered from the sea.

ABERYSTWITH, a parochial chapelry, hund. Abergavenny, co. Monmouth, celebrated for its collieries and iron works, which have greatly increased during the last half a century. Pop. 5,561 in 1861.

ABIAD (BAHR EL). See NILE.

ABINGDON, an ancient town of England, co. Berks, at the confluence of the Ock with the Isis, and at the junction of the Berkshire canal with the latter, 55½ m. WNW. London on the Great Western railway. Pop. 5,680 in 1861. The town has several well-paved streets terminating in a spacious market-place, having a market-house in the centre. It has two churches, with places of worship for Dissenters, a well-endowed grammar school, and sundry almshouses and charitable endowments. It has a considerable corn market: some trade is carried on in malting and hemp-dressing. It returns one m. to the H. of Commons. The parl. constituency consisted of 817 registered electors in 1864. Amount assessed to property-tax 20,425*l*. This was formerly a scot-and-lot borough; every inhabitant assessed to the poor rates exercising the elective franchise. Of these scot-and-lot voters only four remained in 1864.

ABO, the ancient capital of Finland, near the extremity of the promontory formed by the gulfs of Bothnia and Finland, on the river Aurajoki, by which it is intersected, lat. 60° 26' 58" N., long. 22° 17' 15" E. It was the seat of a university, and has a considerable trade. But in 1827 it suffered severely from a fire, which destroyed the university and above 700 private houses. The university has since been removed to Helsingfors, now the capital of the province. Previously to the fire the town contained about 13,000 inhabitants; the population then decreased, but had risen again to 16,870 in 1858. The town has a gymnasium, a bank, and some unimportant manufactures. A treaty was concluded here in 1743 between Russia and Sweden.

ABOMEY, cap. of the kingdom of Dahomey, in Africa, nearly 100 m. N. from the sea, lat. 7° 30' N., long. 2° 17' E. Pop. said to be 24,000.

ABOUKIR, a village of Egypt, with a citadel, on a promontory, about 10 m. N.E. of Alexandria, being supposed by some to occupy the site of the ancient *Canopus*, lat. 31° 19' 44" N., long. 30° 7' 16" E.

ABOUKIR BAY, on the north coast of Egypt, formed on the west side by the point of land on which Aboukir is situated, and on the east by that which lies at the mouth of the Rosetta branch of the Nile. Here, on the 1st of August, 1798, was fought the famous battle of the Nile, when the French fleet that had conveyed Napoleon to Egypt was totally defeated by the British fleet under Lord Nelson; and here also, on the 7th of March, 1801, the English army, under Sir Ralph Abercromby, effected its disembarkation.

ABOUSAMBUL. See IPSAMBUL.

ABRANTES, a fortified town of Portugal, prov. Estremadura, lat. 39° 26' N., long. 8° 15' W., at the S. extremity of a ridge that trends SW. from the great range dividing the valleys of the Douro

and Tagus. Pop. 6,020 in 1858. The position of the town adapts it admirably for a military station; and Sir A. Welleley availed himself of its local advantages by resisting there the progress of the French in 1809. (See Napier, ii. 317, &c.) It is about ½ m. from the right bank of the Tagus and 72 m. above Lisbon. The hill-side on which the town is built, as well as the hills about, bear vines, olive, peach, and other fruit trees, while the plain eastward produces pumpkins, water-melons, and other vegetables: all these products are carried down the river in barges to the capital, with which this town has very considerable traffic. The trade, now occupying above 100 barges, would be much increased if the navigation were improved. A few small craft go 24 m. higher, as far as Villabells; but the stream is rapid, and the bed much impeded with sand and rocks. The church of San Vincente is the largest and finest in Portugal.

ABRUZZO, an extensive territory of Italy, forming the NE. portion of the former Neapolitan dominions, between 41° 50' and 42° 55' N. lat. While Naples existed as a separate kingdom the territory was divided into the provs. of Abruzzo Ultra I., Abruzzo Citra, and Abruzzo Ultra II., but these names were abolished at the formation of the kingdom of Italy, and its reconstruction into 59 provinces. The new administrative divisions of the Abruzzo, are called, after the names of the chief towns, Aquila, Chieti, and Teramo. Aquila has a population, according to the census of 1862, of 839,555; Chieti of 387,864, and Teramo of 240,085, so that the total pop. of the Abruzzo numbers 917,954 inhabitants. An enumeration of the year 1831, stated the pop. at 785,981, which, considering the nature of the country, shows a remarkable increase.

The country presents every variety of soil and surface; but the greater part is mountainous, rugged, and occupied by extensive forests. It is traversed throughout its whole extent by the Apennines, and has some of their highest summits. Monte Corno, surnamed *Il Gran Sasso*, or the Great Rock, rises to the height of 9,527 feet above the level of the sea, Monte Majella to about 8,500, and Monte Vellino to 8,397. It is watered by many rivers, most of which fall into the Adriatic; and in Abruzzo Ultra II. is the celebrated Lago Celano, the *Lacus Fucinus* of the ancients (see CELANO, LAKE OF). The climate differs with the elevation of the soil; but though very cold on the mountains, and comparatively hot in the low grounds, it is, speaking generally, temperate and healthy. Along the Adriatic, and in the valleys and plains, the soil is very productive; and large quantities of corn, oil, wine, silk, liquorice, and almonds, are produced. Saffron used to be very extensively cultivated in the valley of Aquila, but the quantity raised is now very much restricted. The inhabitants of the mountainous districts are principally engaged in the rearing of sheep and cattle. The upper regions and recesses of the mountains are depastured in the summer season by vast flocks of sheep, brought from the Capitanata and other level provinces more to the S. Their migrations are regulated by law, and are similar to those that take place in Spain and in the SE. depts. of France. The inhabitants are stout, well-made, healthy, and industrious. The occupiers and labourers, who form the vast majority of the population, are mostly poor, living in miserable dirty huts, feeding principally on Indian corn, and drinking a poor wine. Many thousands of the peasants emigrate every autumn to seek for employment in the Northern Maremma. Manufactures have made but little progress; but wool-lens, silks, and earthenware, are produced. The

foreign trade would be much more extensive than it is, were it not that the entire coast is without a single good port. Principal towns Chieti, Aquila, Teramo, Sulmona, and Avezzano.

ABU-ARISCH, a petty state in the SW. of Arabia, on the borders of the Red Sea, between 15° 50' and 17° 40' N. lat., and 41° 30' and 43° E. long., consisting of the narrow slip of low land which lies between the coast and the mountain district of *Haschid-u-Bekel*. On the N. it is separated from *El-Hedjaz* by a small district inhabited by wandering tribes of peculiar manners; and on the S. it borders upon the state of *Lokeia*. Its extreme length is about 130 m., and its greatest width from 70 to 80 m. It forms part of the *Tekama* or low lands of *Yemen*, being almost wholly a sandy plain (see *ARABIA*), extremely hot and dry, destitute of permanent water courses, and preserved from utter sterility only by the abundant rains in the neighbouring mountains, which periodically inundate its otherwise waterless soil. Its principal products are dhourah or barley, which forms the principal food of the inhabitants, and a peculiar and highly esteemed breed of asses.

ABU-ARISCH, a town of Arabia, cap. of the above state, and the residence of the sheriff, lat. 16° 40' N., long. 42° 20' E. It occupies the centre of the principality, being midway between the Red Sea and the mountains, and between its N. and S. boundaries. It is walled: population estimated at from 4,000 to 5,000. It seems probable that Abu-Arisch, which at present is 24 m. from the sea, was formerly much nearer to it, if, indeed, it were not once what *Gheran* now is, the port of this part of Arabia. This is rendered probable as well from the appearance of the surrounding country as from the well-known fact mentioned by Niebuhr, that the coast here is constantly and rapidly gaining on the water. (Niebuhr, *Des. de l'Ar. par. ii. p. 232*; *Voy. en Ar. ii. 69*.)

ABUTIGE, a considerable town of Upper Egypt, on the site of the ancient Abotis, lat. 27° 2' N., long. 31° 23' E. It is the seat of a Coptic bishop, and is celebrated for its opium.

ABYDOS, an ancient city, founded by the Thracians, and subsequently occupied by a colony of Milesians, on the Asiatic side of the Hellespont, where it is narrowest, bearing nearly S. from *Sestos* on the European side of the strait. It had a commodious harbour, and was strongly fortified. It was here that *Xerxes* constructed the bridge of boats by which he conveyed his ill-fated host across the Hellespont; and it is distinguished in ancient history for the desperate resistance made by its inhabitants to Philip of Macedon, who, however, partly by force and partly by treachery, succeeded in taking it. But *Abydos*, and also *Sestos*, are mainly indebted for their imperishable celebrity to the story of the loves of *Hero* and *Leander*, and the melancholy fate of the latter. *Abydos magni quondam amoris commercio insignis est.* (Amm. Marcellinus, lib. i. c. 19.) It was destroyed by the Turks; and the fact that the materials were carried 8 m. S. to assist in building the *Sultanie Kalesi*, or old castle of Asia, the strongest fort on the Dardanelles, and its contiguous town, accounts for few ruins being found at *Abydos*. The modern fort of *Nagara* occupies its site.

ABYSSINIA, or *Habesch*, an extensive country of Eastern Africa, of which the boundaries are not well defined, but which may be regarded as occupying the space included between 9° and 15° 40' N. lat. and 36° E. long. and the Red Sea; having E. the latter, N. *Senaar* and *Nubia*, and on the W. and S. *Senaar*, *Kordofan*, the *Soudan*,

and other barbarous and nearly unknown countries. It is supposed to include in all above 300,000 Eng. sq. m.

Name.—Abyssinia was included in the *Ethiopia* (from *αἰθίοψ*, a man burnt by the sun, or of a dark colour) of the ancients. The name *Abyssina*, or more properly *Habessina*, from the Arabic *Habesch*, signifying a mixture or confusion, has been given to the country by the Arabic and Portuguese geographers, and indicates the supposed Arabic origin of the people, and their subsequent intermixture with the Africans. The Abyssinians do not use this name; and either assume that of the provinces in which they live, or call themselves *Itjopians*, and their country *Manghesta Itjopia*, or kingdom of *Ethiopia*, a name given it by the Greeks during their ascendancy at Axum.

Face of the Country.—Abyssinia presents great inequalities of surface. It consists principally of a series of plateaus, intersected and separated by mountain ridges. Ritter classes the plateaus under three great divisions. Setting out from the coast of the Red Sea, and traversing the low arid ground by which it is bordered, and ascending the heights or mountains of *Taranta*, we arrive at the first plateau, or country of the *Baharnegash*, lying between the *Taranta* on the E. and the river *Mareb* on the W. Passing through the *Baharnegash*, and making another ascent, we arrive at the great plateau of *Tigré*, between the *Mareb* on the E. and the *Tacaze* on the W.; but including to the south the mountain regions of *Enderta*, *Wojjerat*, *Lasta*, &c. The last-mentioned country contains the sources of the *Tacaze*, one of the principal affluents of the Nile. The towns of *Adowah* and the ancient *Axum* (see the names), are situated in the middle of the plateau of *Tigré*. *Antalaw* lies more to the south, in the province of *Enderta*. The mountains of *Samen*, on the W. side of the plateau of *Tigré*, are the highest in Abyssinia, and form, with those of *Lamalmon* and *Lasta*, a great but not continuous chain, running NE. and SW., and separating the high lands of *Tigré*, from the still more elevated plateau or alpine country of the *Habesch* or *Amhara*, including the provinces or countries of *Dembea*, *Gojam*, *Damot*, &c. This region, the highest in Abyssinia, and the nucleus and centre, as it were, of the old empire, contains the sources of the *Bahr-el-Azrek*, or eastern arm of the Nile, and the great lake of *Tzana* or *Dembea*. It has a mean elevation of about 8,000 feet, and is fenced and intersected by mountain ridges, of which those of *Gojam*, from their containing the sources of the E. Nile, are the most celebrated. *Gondar*, the capital of *Amhara*, and formerly the residence of the *Negus* or emperor of Abyssinia, lies a little to the N. of the lake. From this plateau the country shelves down on the W. to the barbarous and unknown regions already alluded to.

The provinces of *Efat* and *Shoa*, which now form, with their dependent territories, the most powerful of the Abyssinian states, lie to the SE. and S. of *Amhara*. The first is very elevated, part of its waters flowing westward to the Nile, and part eastward to the *Hawash*. Its chief town is *Ankoher*. The province of *Shoa*, lying along the southern side of the Nile, is comparatively low, and is renowned for its magnificent pastures and fruitful valleys. It has several towns and some celebrated monasteries. Salt is inclined to think that the Ethiopic language and literature, and the ancient manners of the Abyssinians, are preserved in a purer state in these provinces than in any of the others; but they are very imperfectly known.

Exclusive of the above, there is a vast and but little known country in the SE. part of Abyssinia,

between Efat and Lasta, and the Red Sea and the sea of Bab-el-mandeb. It is almost entirely occupied by tribes of Gallas, some of them the most brutified of any to be found in Abyssinia. The country of Nana, at the sources of the Maleg, SW. from the prov. of Damot, is one of the most elevated of the African plateaus. Its inhabitants are said to be nearly as white as the Spaniards and Neapolitans.

On the SE. of Tigré, between it and the low country or province of the Dankali, lying along the Red Sea, and between the fourteenth and fifteenth degrees of latitude, is an extensive salt plain, having, in most parts, the appearance of ice covered with partially thawed snow. The salt is perfectly pure and hard for about two feet deep; but that lying beneath is coarser and softer till purified by exposure to the air. It is cut into pieces with a hatchet; and not only serves to season and preserve food, but even circulates as money. The salt is carried off by caravans, or companies, consisting of from 800 to 600 beasts of burden, and its digging is not unaccompanied by danger, from the attacks of the savage Galla.

Mountains.—Those of Abyssinia have not in general been accurately measured. They were represented by the early Portuguese travellers and the Jesuits as being of such vast height that, compared with them, the Alps and Pyrenees were mere hillocks! But these exaggerated representations have been since reduced to their proper value. The highest summits of the Samen, however, approach closely to the line of perpetual congelation, so that their elevation may be fairly estimated at from 12,000 to 13,000 feet. The Abba Jared is 15,000, and Ras Detschen 15,986 feet high. The mountains of Gojam are of very inferior altitude, and are cultivated to the summits. Generally the Abyssinian mountains have a peculiarly abrupt and precipitous appearance. Sometimes they form what are called *ambas* or hill forts, consisting of steep, rocky, and all but inaccessible sides, having on the summit a level surface covered with trees and verdure. The most celebrated of these hill forts is that of Ambu Geahm, formerly used as a place of confinement for the princes of Abyssinia.

Rivers.—Of these the Bahr-el-Azrek, Blue River, or eastern branch of the Nile, is by far the most famous. It rises from two mountains near Geesh in Gojam, being, according to Bruce, in lat. $10^{\circ} 59' 25''$ N., long. $36^{\circ} 55' 30''$ E., and at an elevation of 10,000 feet above the level of the sea. Its course is thence N. to the lake Dembea, a large sheet of water, which receives many other streams; but the Nile is said to preserve its waters with but little intermixture with those of the lake, across which its current is always visible. Escaping from this lake, it sweeps in a southerly direction round the E. frontier of the provinces of Gojam and Damot, till, between the ninth and tenth degree lat. it takes a NW. direction, which it preserves till, at Halfaia, near the sixteenth degree lat., it unites with its other and more important branch, the Bahr-el-Abiad, or White River, flowing from the SW. (see NILE). The next most important stream is the Tacazze, whose source has been already noticed. It drains the mountains of Samen and Tigré; and pursuing a pretty direct NNW. course through Senaar, falls into the Nile near the eighteenth degree lat. The Mareb, which rises in the heights of Taranta, runs nearly parallel to the Tacazze. In the dry season it loses itself in the sand; but Bruce says that in the rainy season it continues its course till it unites with the Tacazze. The Hamazo and Hawash run E. in the direction of the Red Sea; but

the latter is swallowed up in the sands before meeting it. Exclusive of the great lake of Dembea or Tzano, already referred to, which is 50 miles long, 30 miles broad, and 6120 feet above the sea level, the lake of Ashangee, on the E. side of the Samen, is also of very considerable size.

Mineralogy.—This is very imperfectly known, though geologically presenting some remarkable features. Granite and schistus or slate have been extensively observed; and it is probable that these primitive rocks occupy a large portion of the principal chains. In Tigré, the strata are chiefly vertical; but in the mountains of Samen they incline more to a horizontal position. Extinct volcanoes, hot springs, deposits of sulphur, rock salt, and malachite have also been found; as also gneiss, antimony, iron, gold, and silver. Allusion has already been made to the extensive salt plain E. of Tigré.

Climate.—This necessarily differs with the elevation of the country, the direction of the mountains, &c. In the deep valleys and low grounds (*kollas*) the heats are frequently excessive; and this, combined with excess of moisture, renders them unhealthy. But the climate of the plateaus is extremely fine, particularly that of Amhara, which is said to enjoy a perpetual spring, *per eternum*. The Portuguese found it quite as temperate as that of their own country. According to Ludolph, the natives often attain, in that happy climate, to the age of 100 years and upwards! The climate of Tigré is not quite so mild; but there, also, the great extent of pasturage and of verdant plains shows that the country is not visited by the extreme of heat. The plateau of the Baharnegash is the hottest. In March, Mr. Salt found its air hot and dry, and the beds of the rivers without water. The year is sometimes divided into four, but more properly into three, seasons. Winter (*kramt*) is the season of rain, which always falls in great quantities, and often with much violence, rendering rivers and even brooks quite impassable. It begins on the coast at the latter end of October, and in the interior about the end of February, the river Tacazze being swollen from April to September; the rest of the year consisting of summer (*hagat*) or the season of heat and drought; and a short period of harvest (*tzadai*).

Races.—Population.—The inhabitants of Abyssinia comprise a variety of tribes. They all, however, closely resemble each other in their physical character and manners; and, in respect of bodily conformation, are entirely distinct both from the Negroes and the Arabians. They belong to what has been called the Ethiopic variety of the human race; and their most prominent characteristics will be found described in the article AFRICA, to which the reader is referred. Of the different tribes, the principal are the Tigrini, or inhabitants of Tigré; the Amharans, or inhabitants of Amhara; the Agows, inhabiting the province of Damot; the Efat, occupying the southern banks of the Nile; the Gongas and Enareans, still further S.; and the Falashas, occupying the mountains of Samen, &c., who profess Judaism, and pretend, though it is believed on no very good grounds, to deduce their origin from Palestine. These tribes are easily distinguished by their language; but it is not clear whether their idioms be really distinct languages, or, which is most probable, only dialectic varieties of a much smaller number of mother-tongues. (Prichard on Man, vol. ii. p. 186, 3rd ed.)

The Galla, or savage tribes by which large portions of Abyssinia have been overrun, are said to have made their first appearance on the southern frontier in 1587. No doubt they belonged originally to the central parts of the African conti-

ment. They have a brown complexion, with long black hair; and their tribes are all independent of, and often at war with, each other. Most of them have adopted the Mahomedan faith, and have partially conformed to the manners of the Abyssinians. They are still, however, distinguished by their greater ferocity.

No means exist by which to form any probable estimate of the number of people in Abyssinia. Mr. Salt could obtain no accurate information on the subject. If the country were tranquil, it could hardly fail, owing to the fruitfulness of the soil and the general healthiness of the climate, to be exceedingly populous; but the anarchy and civil war in which it is constantly involved more than neutralise these advantages, and keep the population far below its natural level. Its total amount is estimated at 4,500,000.

Language.—The Gheez, or Ethiopic, a language akin to the Arabic and Hebrew, was the language of Axum, and of the subjects of the Axumite sovereign, at the era of their conversion to Christianity in the 4th century. It is now extant only as a dead language, consecrated to literature and religious uses. The Amharic, or modern Abyssinian, is not a dialect of the Gheez, though it has adopted from it a great number of words, but a totally distinct language. It is probably an ancient African language, and the original idiom of the inhabitants of the south-eastern provinces of Abyssinia. As regards literature and learning, the Abyssinians are at the lowest ebb. Their clergy are ignorant, and have no taste for learning. Mr. Gobat thinks that in the country where Amharic is spoken about 1-5th part of the male population can read a little, and in Tigré about 1-12th part.

Productions.—The country is very fertile, and has a vast variety of products; among which are wheat, barley, millet, and other grain. On the high grounds wheat is raised in considerable quantities; but in the low grounds the heat is too strong for it. Barley (*dhourra*) is raised in large quantities; but the principal dependence of the country is on the *teff* (*Poa Abyssinica*), which grows on every soil, except the very lowest, and affords the bread in general use. The plant is herbaceous. From a number of weak leaves rises a stalk about 28 inches in length, and not much thicker than that of a carnation. Out of the top spring a number of branches, which contain the seed or fruit inclosed in a species of capsula. The grains are not larger than the head of the smallest pin, yet so numerous as to constitute on the whole a bulky crop. But the lowest grounds (*kolla*) are unfit even for the production of teff; and on these is raised a species of corn called *tocousoo*, which yields a black bread, the food of the lowest classes. There are at least two harvests in the year; and in the same place may at once be seen in progress the operations of ploughing and reaping, with corn in every different stage of advancement. Among the other vegetable products are cotton, of which clothes are usually made; coffee, which grows wild on the western mountains; senna, myrrh, and other medicinal plants. The stalk of the *ensete*, a species of palm, the banana of Abyssinia, is said, when stripped of its green covering, to be the very best of all vegetable food. It is found in great abundance. Various species of figs, some of them of a very large size, as the *Ficus sycamorus*, are also very plentiful. Citrons, oranges, and sugar-canes are met with in the low grounds, but not on the elevated plateaus. Dates and vines are met with, but neither are supposed to be indigenous. Both are believed to have been imported and cultivated by the Portuguese. At present the vine is grown only in the district of Emfras, on the E.

side of lake Dembea, where it produces magnificent grapes. The Abyssinians do not use wine except for the communion table. Tellez says expressly, that in his time the vine was unknown in Abyssinia. The *papyrus*, so celebrated for its furnishing the principal species of paper used by the ancients, is abundant in the lakes and rivers; and Bruce contends that it was thence transplanted to Egypt.

The domestic animals of Abyssinia do not differ materially from those of Europe. The horses, which are the principal wealth of the inhabitants of the plateaus, are strong and active. They are used in war and the chase, mules and asses being used principally as beasts of draught and burden. The number of mules brought from the interior annually is about 1200. Oxen are very abundant. The most remarkable species is a native of the low grounds, and has horns of an enormous magnitude, Mr. Salt having seen one 4 feet long, and 21 inches round at the base. It is called the Galla ox, from its having been brought to Tigré by the Galla. Of the wild animals, the most numerous and characteristic is the hyæna, called here the *dubbah*, exceedingly fierce and untameable. In most parts of the country they are found in vast numbers, place travellers in continual danger, and even enter houses. They are not naturally gregarious, yet sometimes assemble in vast troops, attracted by some common object, particularly the scent of dead bodies, which, according to the barbarous custom of the country, are often left unburied. Bruce contradicts the common report of their digging into sepulchres. The elephant and rhinoceros are numerous in the low grounds, and in places full of moisture. They are hunted by the Shangalla, who use their teeth as an article of commerce, and feed upon their flesh. It is a mistake to suppose that any of them have ever been tamed in this country, or, indeed, in any part of Africa. There is a species of rhinoceros with two horns, found only in a few districts. Its horns have no connection with the bone; its skin, which has no folds, is used for shields; the horns for handles for swords, and also as a lining to drinking vessels. The antelope species, which is very numerous, is seldom found in the cultivated districts, but chiefly appears on broken ground near the rivers. The buffalo, domesticated in Egypt and elsewhere, is here one of the most ferocious of animals; he lodges himself in deep and sultry valleys, under the shade of the tallest trees, and near the largest and clearest rivers. The hippopotamus, called *gomari* by the natives, is abundant in the lake of Dembea; but Ludolf affirms that this lake contains no crocodiles. They are both, however, found in the deep pools of the Nile, Taccaze, and other rivers. The crocodiles in the latter are of an enormous size, of a greenish colour, and are more dreaded by the natives than the hippopotamus. The torpedo is found in the rivers and lakes. The lion is found only occasionally. There are several species of leopard. The zebra is frequent in the southern provinces, where its mane adorns the collars of the war horses. To the list of wild animals may be added the wolf, the lynx, the quagga, the monkey, the jackal, several species of wild cat, many varieties of the antelope, two kinds of hares, &c. A small animal, the jerboa, about the size of a rat, burrows in the fields, both here and in Barbary.

The feathered creation in Abyssinia bears more than its usual proportion to the other species. Mr. Parkyns, who lived several years in the country, states that he collected 800 varieties. The vast profusion of insects, grains, and plants, even the waste and destruction attending continual wars,

afford them an abundant supply of food. The nisser, or golden eagle, perhaps the largest bird of the old continent, and a beautiful species called the black eagle, are particularly noticed by Bruce. To these Salt adds a new species called goodie-goodie, the size of the common falcon. According to Mr. Parkyns, there are several varieties of the vulture, and about twenty-four sorts of hawks and falcons. Storks, partridges, snipes, pigeons, and swallows, occur in great number and variety, as well as plovers, grouse, guinea-fowl, florican, geese, ducks, horn-bills, the cuckoo, parrots, woodpeckers, thrushes, larks, crows, &c. The ostrich and the bustard are found to the north of Abyssinia and in the wilder districts of the country.

Reptiles of all sorts abound in the hot districts of the Tigré, and of the smaller lizards there are an innumerable quantity.

Among insects the most numerous and useful are bees. Honey constitutes everywhere an important article of food. Several provinces used to pay a large proportion of their tribute in this article. The honey assumes different appearances, sometimes black, sometimes blood-red, according to the plant on which the insect feeds. Of a very different character is the locust, which commits here ravages quite as terrible as in the other countries of Northern Africa.

Government.—Political Divisions.—The former government of Abyssinia, or that which existed in it when it became known to the Portuguese and the Jesuits, was an absolute and despotic monarchy, in which the emperors, restrained by no written laws, popular assemblies, or privileged classes, had full power to dispose at pleasure of the lives and property of their subjects. But this ancient government may now be said to be totally extinct. The force of the central government was gradually weakened, partly by the rebellion of the governors of the different provinces, and partly by the irruption of the Gallas and other slave hordes, who have subjugated some of its finest countries. Salt has ingeniously compared the state of Abyssinia in a political point of view to that of England during the heptarchy; and since he visited it anarchy seems to have made a still more rapid progress. The whole country was, till lately, split into an endless variety of states, the limits of which were perpetually changing, and between which the most deadly animosities and interminable contests constantly prevailed. Within the last few years the most of the territory has fallen under the sway of an adventurer Theodoros, who is styled King of Abyssinia. He was born in Quara, a small province on the western borders of Amhara, his father being a poor nobleman, and his mother, after the father's death, having been driven to seek a subsistence for herself and her child by the sale of *kosso* flowers, considered by the Abyssinians a specific against tapeworm. Growing up to manhood, the young Theodoros attached himself to a band of robbers in the malarious borders of the western lowlands, and soon became famous throughout Abyssinia and the Soudan, attracting a gradually increasing following of discontented chiefs. After a good deal of fighting, he made himself master of the whole of Western Abyssinia. In 1856 he conquered Tigré, then governed by a chief named Oubi, which was followed shortly after by the conquest of the Wollo Galla and Shoa provinces, so that he is now really master of nearly the whole country. For some years after his success he manifested great partiality to Europeans, entertaining readily any project of theirs to enhance the wealth of his empire and the stability of his throne; and missionaries and consuls described him as far in advance of his people in ideas and aspirations.

Latterly some unfavourable changes have characterised his proceedings, the most prominent of which has been the imprisonment for a lengthened period of Messrs. Stern and Rosenthal, two missionaries, and Mr. Cameron, the British consul, at his capital, for which cause is not very certainly known. His reign has been signalised by great severity towards rebels. Mr. Stern states that, in 1860, 8,000 of them, after their defeat on the western bank of the Tacazze, were with their leader mercilessly butchered in cold blood; but such barbarity has not been unusual in Abyssinian sovereigns.

Manners and Customs.—The almost perpetual state of civil war and confusion, and not any peculiar cruelty of disposition, seems to be the main cause of that barbarism and brutality by which the manners of the Abyssinians are characterised. All the feelings by which man is restrained from shedding the blood of his fellows seem entirely blunted. Human life is scarcely more respected than that of brutes. Bruce seldom went out at Gondar without seeing dead bodies lying in the streets, left to be devoured by dogs and hyenas, without being even allowed the rites of sepulture. To show the indifference usually felt on such occasions, he mentions that one day, passing along the streets, he saw an officer of rank about to execute three men who had offended the sovereign. This person, calling to Bruce, begged him to stop till he had despatched this business, as he wished to have a short conversation with him. But the circumstance which seems to place the Abyssinians below even the most savage tribes, is the extreme coarseness of their festive indulgences. Their *brinde* (raw beef) feast has excited the astonishment of all travellers. Alvarez, who visited the country as ambassador from Portugal in 1520, and remained there for six years, describes it as a thing 'of which he dare not in a manner speak.' Being invited to a feast, he was much surprised, instead of the usual dishes, to see brought in 'pieces of raw flesh, with warm blood.' The landlord, on seeing his guests show no favour to this savoury dish, ordered other food better suited to their tastes; but immediately began eagerly to devour the flesh, 'as if it had been marchpane or comfita.' The lady of the house did not appear at dinner; but, in drinking, she 'bravely seconded' the rest of the company. Bruce and Salt have furnished still more particular descriptions. The table, which is low, is first covered with successive piles of teff cakes, serving to the guests at once as food and as towels with which to wipe their fingers. The company being then seated, the next process is the slaughter of the cattle, which are standing at the door, and the cutting warm steaks from their flesh. Bruce says that these are extracted while the animal is yet alive, and bellowing under the pain of the wound. But this disgusting circumstance is not mentioned by any of the earlier writers, and Mr. Salt affirms that the head is separated from the body before the operation of slicing commences. Salt, however, as well as Bruce, admits that the luxury of an Abyssinian feast consists in having the pieces brought in while the blood is yet warm and the fibres palpitating. The female who sits next to each chief then wraps up the slice in a teff cake, and thrusts into his mouth as large a quantity as it is capable of containing, which is greedily devoured. All parties drink copiously of hydromel, and bouza, the beer of the country. Having satisfied themselves, they rise, and give place to another company of inferior rank, and these to a third, till all is consumed. The gross indecencies which Bruce represents as perpetrated on these occasions, and which he has described with such revolting

maintenence, have been denied by Mr. Salt, and it is hardly possible to suppose that they can be other than rare occurrences. Mr. Gobat, the missionary, admits that a feast such as that described by Bruce may have taken place among the most shameless libertines; but he adds, that 'excesses of that kind are not customary either as to their cruelty or indecency.' The practice reported by Bruce, and which subjected him to no little ridicule, of cutting steaks from a living animal on a journey, and then closing up the wound and driving it on, appeared at first quite unfounded to Mr. Salt; but in his second journey he witnessed it, and found that it was called by a peculiar name—cutting the *Shakada*; which certainly goes a good way to prove its frequency, though that also is disputed by Mr. Gobat, who denies its occurrence, unless perhaps in cases of extreme hunger. Mr. Parkyns, a later traveller, corroborates the testimony of Mr. Salt, having heard of, though he had not himself witnessed, an occurrence of the kind. He believes in the accuracy of Bruce's observations at the time, though apparently a change for the better had taken place.

Justice in Abyssinia is altogether barbarous, venal, and corrupt. When a person accused of a criminal offence is found guilty, he is detained in prison till he has made satisfaction to the accuser; or, if he have committed murder, till he be disposed of by the relations of the deceased, who may either put him to death or accept a ransom. The latter is generally fixed at 250 dollars for a man, but the relations are under no obligation to accept it. To escape the avenger of blood, however, the murderer may retire to another province, as to a city of refuge, and he cannot be followed. When a murdered person has no relations, the priests take upon themselves the office of avengers of blood. The king in person constitutes the final court of appeal, and is very assiduous in performing the duty of judge. Theft and murder and other aggravated offences have been a good deal suppressed.

Marriage in Abyssinia is a very slight connection, formed and dissolved at pleasure. The most formal mode of concluding it is, when the lover, having made certain engagements to the parents, and obtained their consent (for that of the bride is seldom asked), seizes her and carries her home on his shoulders. A magnificent feast is then given of *brinde* and *bouza*; and at a fixed period of twenty or thirty days afterwards, they go to church and take the sacrament together. It is in a few rare instances only that even this slight ceremony is used. In most cases, mutual consent, and a plentiful administration of raw meat and *bouza*, form the only preliminaries. The will of either party, or of both, is at any time sufficient to dissolve the connection. If they have several children, they divide them; if they have but one, and he is under seven years of age, he belongs to the mother; if above seven, to the father. Gobat says that after a third divorce they cannot contract another regular marriage, nor partake of the communion *unless they become monks*; Bruce, however, mentions being in a company at Gondar, where there was a lady present, with six persons, each of whom had been successively her husband, although none of them stood in this relation to her at the time: nor do either party consider themselves bound to observe with rigid fidelity this slight engagement, even while it lasts. Manners may be considered, in this respect, as in a state of almost total dissolution. Slaves are common in all parts of Abyssinia. They consist of Shangallas, a race of savage negroes inhabiting the low countries on the NNW. and NE. frontiers. They are very numerous in Gondar and other places of Amhara,

and also in Tigre; are well treated, and escape many of the privations to which they are subject in their wild state.

The only display of architectural magnificence in Abyssinia is in the churches. They are built on eminences; are of a circular form, with conical summits and thatched roofs; and are surrounded with pillars of cedar, within which is an arcade, which produces an agreeable coolness. The houses of the sovereigns and *grandeos* are also large and commodious; though, in this warlike country, the camp is considered as their more proper residence. All the houses are mere hovels of a conical form, with a thatched roof, and containing little or no furniture. The dress, both of men and women, consists chiefly of a piece of cotton cloth, 24 cubits long by 1½ in breadth, which they wrap round them like a mantle, with close drawers reaching to the middle of the thigh, and a girdle of cloth. Needlework and washing, according to Mr. Stern, are performed not by the women but by the men. Their food consists of the different species of grain already enumerated, fish, fruits, honey, and raw meat at festivals. The most general drink is *bouza*, a species of sour beer, made from the fermentation of their cakes, particularly those left at entertainments. *Tocouso*, the coarsest grain, produces *bouza* equal or superior to any of the others. *Hydromel* is also made in great quantities. Agriculture, the only art much cultivated, is very far behind the perfection which it has attained even in the most backward parts of Europe. The ploughs, of the rudest construction, from the root or branch of a tree, are drawn by oxen. The land is twice ploughed, but with the utmost indifference as to the straightness of the furrows; after which women are employed to break the clods. In the course of ripening, the corn is carefully weeded. As previously stated, there are two or three crops in the year. The worst grain is commonly used for seed. In general, every family cultivates for itself, and little is brought to market. The poor people live miserably on black teff and *tocouso*, and even persons of consideration use little except teff and *bouza*.

The Abyssinians profess Christianity, but it has little influence over their conduct. At present they are split into three parties, violently opposed to each other. They retain a great number of Judaical observances, abstaining from the meats prohibited by the Mosaic law, practising circumcision, keeping both the Saturday and Sunday as Sabbaths, and regarding fasts as essential. But their fasts, though apparently long and rigorous, are dispensed with on payment of a sum of money, according to the rank and wealth of the party. The Coptic patriarch of Cairo continues still to be the nominal head of the church, from whom the Abuna, the resident head, receives his investiture. They have monasteries, both of monks and nuns, who are far, however, from professing that rigid austerity which is the boast of the Romish church. Their veneration for the Virgin is unbounded; and the Catholic missionaries found that they completely outdid, in this respect, their own ultra zeal. Their saints are extremely numerous, and surpass, in miraculous power, even those of the Romish calendar. They represent them by paintings, with which their churches are lavishly adorned; but they do not admit any figures *in relief*. The clergy do not attempt to prohibit divorce, or even polygamy, the propensity to which in the nation is probably too powerful to render any prohibition effectual.

Mohammedans, as well as Jews, are also found in Abyssinia. The former appear to have increased since Bruce's visit; at present they are

most numerous in Adowah and its vicinity. Few of them have any knowledge of the Koran. They engage more in traffic than the Christians, and have more money. They are said to engross the whole traffic in slaves; the Christians, according to Mr. Gobat, never taking any part in it. The Jews claim to be descended from immigrants into Abyssinia, who returned with the Queen of Sheba after her visit to Solomon. In morals they are much superior to their neighbours, both Christians and Mohammedans, but are unsocial and ascetic. Husbandry and a few simple trades are their sole occupations.

Though low, as compared with Europe, the manufactures of Abyssinia occupy a prominent place among most of the African nations. It supplies itself with all the most indispensable articles. Cotton cloths, the universal dress of the country, are made in large quantities, the fine sort at Gondar, and the coarse at Adowa. Being unable to dye their favourite dark blue colour, they unravel the blue Surat cloths, and weave them again into their own webs. Coarse cloth circulates as money. Manufactures of iron and brass are also considerable, the material being procured from Sennaar, Walcayt, and Berbera; knives are made at Adowa and spears at Antalaw. The business of tanning is well understood in Tigré; and at Axum sheepskins are made into parchment, Saddles, and all sorts of horse furniture, are good. The foreign commerce of Abyssinia is carried on entirely by way of Massuah, whence the communication with the interior is maintained by the channel of Adowa. The imports are chiefly lead, block tin, gold foil, Persian carpets, raw silk from China, velvets, French broad cloths, coloured skins from Egypt, glass beads and decanters from Venice. The exports consist of gold, ivory, and slaves. The slaves are reckoned more beautiful than those which come from the interior of Africa.

Progress of Discovery.—The ancients never acquired any accurate knowledge of Abyssinia. To it, along with Sennaar, they, in a peculiar sense, applied the comprehensive name of Ethiopia; for though that term was made to extend generally to the interior of Africa, and even to a great part of Asia, yet *Ethiopia sub Aegypto* was regarded as the proper Ethiopia. Descriptions of Ethiopian nations are given by the ancients at considerable length; but they serve chiefly to show the imperfection of their knowledge, and are tinged with a large admixture of fable. Rennell supposes, seemingly on good grounds, that the Macrobians, or long-lived Ethiopians, said to live farther to the south than the others, belong to Abyssinia. The ancients had no distinct knowledge of more than two Ethiopian kingdoms: the first and only one known to the earliest writers is Merop, or the Peninsula, which they erroneously supposed to be an island formed by the successive union of the Nile with the Astaboras and the Astapus (Blue River and Tacazze). The chief city of Merop was placed by them on the Nile, in lat. 16° 26'; and Bruce, in passing through Sennaar, saw, near Candi, immense ruins, which probably belonged to this celebrated capital of Ethiopia. The other kingdom became known after the Greeks, under the successors of Alexander, extended their navigation along the eastern coast of Africa. It was that of the Axumites, situated upon the Red Sea, and occupying part of Tigré. Its capital, Axum, still remains, and though in a state of decay, exhibits remains so vast as amply to attest its former greatness. The inscriptions discovered here by Salt show that the Axumites had received amongst them the religion and the arts of foreigners, and that

they made use of the Grecian language in the inscriptions on their monuments. The port of Axum, Adulis, was the channel by which the finest ivory then known was exported, and a commercial intercourse maintained with the coasts both of the Red Sea and the Indian Ocean. Salt, though unable to visit it, seems to have ascertained its situation near Massouah.

Prior to the middle of the fourth century, Abyssinia was converted to Christianity, which it has ever since nominally professed.

After the rise and rapid spread of Islamism, those of the Egyptians who were reluctant to change their faith being compelled to fly southwards before the sword of the Saracens, Nubia and Abyssinia became filled with Jewish and Christian refugees. And as both these countries were at that time Christian, the Arabian geographers, who have fully described other parts of the continent, make a very slight mention of them; so that Abyssinia remained almost unknown till near the era of modern naval discovery. In 1445, the emperor of Abyssinia sent an ambassador to the senate of Florence, and wrote a famous letter to the priests his subjects at Jerusalem. This, and the favourable reports of the Abyssinian priests now referred to, gave rise to the most exaggerated reports. It was said that a Christian prince, to whom the Portuguese gave the fantastical name of *Prester* or *Presbyter John*, ruled over a vast, highly civilised, and rich empire, in the centre and E. of Africa. This statement inflamed at once the spirit of discovery and of religious zeal, the two ruling principles in that age. The Portuguese monarchs, who took the lead in exploring the eastern world, immediately devised measures for acquiring a knowledge of so remarkable a region. The passage to India by the Cape of Good Hope had not yet been discovered; Abyssinia was therefore viewed as a tract through which the commerce of India might be conducted. Two envoys, Covilham and De Paiva, were therefore sent, under the direction of Prince Henry, upon a mission to explore it. They went by way of Alexandria, and descended the Red Sea. De Paiva perished by some unknown accident; but Covilham, after visiting different parts of India and Eastern Africa, entered Abyssinia, and arrived, in 1490, at the court of the emperor, residing then in Shoa. Being brought before the sovereign, he was received with that favour which novelty, when there is nothing to be feared from it, usually secures; and being a man of address and ability, he contrived to maintain this friendly disposition. The reports which he transmitted of the country were favourable; and having prevailed on the empress-mother to send an Armenian as an ambassador to Portugal, whose arrival excited a great sensation in that country, the Portuguese sent out several other embassies. Of these the most remarkable is that described by Alvarez, in 1520. He remained six years in the country, and traversed it from north to south, visiting the provinces of Amhara, Shoa, and Efat. Paez, Almeyda, Lobo, and several others successively undertook journeys into Abyssinia. Paez, who resided in the country from 1603 till his death in 1622, visited, in 1618, the sources of the Bahr-el-Azrek or eastern arm of the Nile, and describes them nearly in the same terms as Bruce, who absurdly claims the honour of being their discoverer. From the accounts of these and other missions, Telles first (1660), and afterwards Ludolph (1681), principally compiled their histories and descriptions of Ethiopia. Ludolph, who was well versed in the language, derived a considerable part of his information from the com-

munications of Gregory, an Abyssinian monk of the province of Amhara, then in Europe.

Public curiosity, however, with respect to Abyssinia gradually subsided, till towards the close of last century (1790), it was revived by the publication of Mr. Bruce's Travels. Many of the circumstances he relates are so very extraordinary as to give to his descriptions a good deal of the appearance of romance. The authenticity of his work was in consequence very generally doubted; and it must be admitted that some of his statements have been shown to be unfounded, and that others are of very questionable authority. But the accuracy of the leading features of his work has been fully established by Mr. Salt and other late travellers.

Further information as to Abyssinia will be found in the Modern Universal History, vol. xv.; the Travels of Bruce, Salt, and Lord Valentia; Mr. Gobat's Journal; the account of Abyssinia in Ritter's Geography; Prichard's Researches on Man; Parkyn's Life in Abyssinia; and Stern's Wanderings among the Falashas in Abyssinia.

ACAPULCO, a celebrated sea-port and town of Mexico, in the intendency of that name, on the coast of the Pacific Ocean, 190 m. SSW. Mexico, lat. 16° 50' 29" N., long. 99° 46' W. Estimated pop. 3,000. The harbour is one of the finest in the world. 'It is familiar,' says Captain Hall, 'to the memory of most people, from its being the port whence the rich Spanish galleons of former days took their departure to spread the wealth of the Western over the Eastern world. It is celebrated, also, in Anson's delightful Voyage, and occupies a conspicuous place in the very interesting accounts of the Buccaneers: to a sailor, therefore, it is classic ground in every sense. I cannot express the universal professional admiration excited by a sight of this celebrated port, which is, moreover, the very *beau-ideal* of a harbour. It is easy of access; very capacious; the water not too deep; the holding ground good; quite free from hidden dangers; and as secure as the basin in the centre of Portsmouth dock-yard. From the interior of the harbour the sea cannot be discovered; and a stranger, coming to the spot by land, would imagine he was looking over a sequestered mountain-lake.' (South America, ii. p. 172.) There are two entrances to this splendid basin, one on each side of the small island of Roqueta or Grifo, the broadest being nearly $\frac{1}{4}$ m. across, and the other from 700 to 800 feet. The town, commanded by the 'extensive and formidable' (Hall) castle of San Carlos, is poor and mean. Since it ceased to be the resort of the galleons, it has ceased to be of any considerable importance; and, when visited by Captain Hall, had only thirty houses, with a large suburb of huts built of reeds, wattled in open basket-work to give admission to the air. The climate is exceedingly hot and pestilential. To give a freer circulation to the air, an artificial cut was made through the chain of rocks by which the town is surrounded. But, though this has been of considerable service it still continues to be very unhealthy. Its natural insalubrity is increased by the poisonous vapours exhaled from a marsh situated to the E. of the town. The annual desiccation of the stagnant water of this marsh occasions the death of innumerable small fishes; which, decaying in heaps under a tropical sun, diffuse their noxious emanations through the neighbouring air, and are justly considered a principal cause of the putrid bilious fevers that then prevail along the coast. Some trade is carried on between Acapulco and Guayquil, Callao, &c.; but, owing to the extreme tediousness and difficulty of the voyage from Acapulco to Callao, the inter-

course between Mexico and Peru is confined within very narrow bounds.

ACERENZA (an. *Acherontia*), a small and very ancient archiepiscopal city of Southern Italy, prov. Potenza; 14 m. NE. Potenza. Pop. 8,955 in 1862. It is situated, according to the description of Horace (Od. lib. iii. car. 4. l. 14), on an almost inaccessible hill, *Nidus celas Acherontia*, the foot of which is washed by the Brandano. It has a castle, a cathedral, two convents, a grammar school, and an hospital. The archbishop resides at Matera. This town was looked upon by the Romans as one of the bulwarks of Apulia and Lucania.

ACERNO, a town of Southern Italy, prov. Salerno; 16 m. N. by E. Salerno. Pop. 8,715 in 1862. The town has a cathedral, a parish church, a *mont de pitié*, which makes advances of seed to indigent cultivators, a fabric of paper, and a forge.

ACERRA, a town of Southern Italy, prov. Caserta; 9 m. NE. Naples. Pop. 11,274 in 1862. It has a cathedral, a seminary, and a *mont de pitié*. The country is fruitful, but unhealthy. This is a very ancient town. In the second Punic war it was destroyed by Hannibal, the inhabitants having deserted it on his approach. (Liv. lib. xxiii. s. 17.) Under Augustus it received a Roman colony.

ACHEEN, a principality occupying the NW. extremity of the island of Sumatra (which see).

ACHEEN, the capital of the above principality, situated near the NW. extremity of Sumatra, on a river about 8 m. from the sea, lat. 5° 35' N., long. 95° 45' E. It is very populous, being said to contain 8,000 houses built of bamboo and rough timber, and raised on posts, to secure them from inundations. A good deal of trade is carried on with Singapore, Batavia, Bengal, &c. Owing to a bar at the mouth of the river, none but small vessels pass up to the city. The entrance for three months of the year is dangerous, but the harbour is secure.

ACHERN, a town of the G. D. Baden, on the Achern, 14 miles NE. Kehl, on the railway from Kehl to Karlsruhe. Pop. 2,579 in 1861. Within a short distance of Achern is the village of Sassenbach, contiguous to which is a granite monument, erected at the expense of the French government in 1829, on the spot where the Marshal de Turenne, one of the greatest generals of modern times, was killed by a random shot on the 27th July, 1675. He was interred in the chapel of St. Nicholas at Achern.

ACHIL, or EAGLE ISLAND, an island on the W. coast of Ireland, co. Mayo, separated from the main land by a narrow channel. It is about 80 miles in circumference, and contains about 23,000 acres. Pop. 5,776 in 1861. It is mountainous; and eagles—whence its name—breed in its inaccessible fastnesses. The inhabitants speak the Irish language, and are in an extremely depressed, miserable condition.

ACHMIN, or ECHMIN, a town of Upper Egypt, on the right bank of the Nile, 280 m. S. Cairo. Estimated pop. 8,000. Streets well disposed, broad, and straight, which is very unusual in Egypt; so that this would be a handsome town, were the houses built of better materials than baked bricks cemented with clay. It was anciently called Panopolis, or Chemmis; the former being the Greek, the latter the Egyptian name. It contains a church of some antiquity, and held in much veneration; but its chief ornament is the granite pillars taken from the ruins of Panopolis.

ACHMUNEIN, a large village of central Egypt, prov. Minyeh, on the site of the an. *Hermopolis*

Magna, lat. 27° 43' N., long. 80° 53' E. In the environs is the portico of an ancient temple, covered with hieroglyphics, and regarded as one of the finest remains of Egyptian architecture.

ACHONRY, a parish of Ireland, co. Sligo, which gives name to a bishopric, now united to Killala. 16 m. W. Sligo. Pop. of parish, 14,504 in 1861.

ACI-REALE, a sea-port town of Sicily, prov. Catania, cap. cant. at the foot of Mount Ætna, 9 m. NE. Catania. Pop. 24,881 in 1862. The town stands on a vast mass of basaltic lava, about 800 feet above its port, the *Marina of Aci*, and is supported on arches constructed with great labour and expense through ten alternate strata of lava and earth. The situation is healthy; the town is regularly built, clean, with many churches, convents, and public buildings, the whole giving evidence of a thriving and industrious population. A considerable trade is carried on, particularly during the fair in July, in wine, fruit, gold filigree work, cotton, flax, and diaper, the last being bleached in great quantities in the plain below the town on the banks of the *Aoque Grande*. The port is small; the mole is formed out of a mass of lava, and there are some good warehouses. The town is celebrated for its cold, sulphurous mineral waters, the cave of Polyphemus, and grotto of Galatea. There are six other places bearing the same name. During the servile war Aci-Reale was the headquarters of the consul Aquilius, who succeeded in suppressing that dangerous revolt, anno 101 B.C.

ACONCAGUA, a province of Chili (which see). This also is the name of the cap. of the same prov., a town containing about 5,000 inhab., and also of a mountain and river, the former one of the loftiest of the Andes, being 28,910 feet above the sea. The river rises on the S. side of the mountain, and flows into the sea 12 miles from Valparaiso.

ACQUAPENDENTE, a small town of Central Italy, 15 m. W. Orvieto. Pop. 2,605 in 1862. It has a cathedral and 5 churches.

ACQUA-VIVA, a town of Southern Italy, prov. Bari, 18 m. S. Bari. Pop. 7,843 in 1862. It is surrounded by walls, has a handsome parish church, some convents, 2 hospitals, and a *mont de pitié*.

ACQUI, or AQUI, a town of Northern Italy, cap. prov. same name on the left bank of the Bormida; 47 m. ESE. Turin. Pop. 9,944 in 1862. It has a citadel, a cathedral, 2 churches, and a seminary; and is celebrated for its warm sulphurous baths. The inhabitants are principally employed in the silk manufacture.

ACRA, a small district on the Gold Coast of Africa, belonging to the Ashantees, nearly under the meridian of Greenwich. The English, Dutch, and Danes have forts at Acra.

ACRE, AKKA, or ST. JEAN D'ACRE, a town of Syria, cap. pachalic of same name on the coast of the Mediterranean, lat. 32° 54' 36" N., long. 36° 6' 5" E., 38 m. SSW. Tyour (an. *Tyrus*), and 35 m. W. Lake Tabaria or Genesareth. It is situated on a promontory, forming the NE. limit of a fine semicircular bay (the Bay of Acre) opening to the N., bounded NW. by Cape Carmel, at the extremity of the mountain of that name. The harbour of Acre, on the S. side of the town, within the bay is shallow, and accessible only to vessels drawing little water; but opposite to Caïpha, a small town at the foot of Mount Carmel, on the W. side of the bay, there is good anchorage ground in deep water. Few towns are more advantageously situated as a centre of commerce or seat of political power; but these advantages, by making its possession of importance, have served to expose it over and over again to hostile attacks. The climate is unhealthy; the winter rains, de-

scending in torrents from the mountains, fill the adjacent plain with stagnant lakes, from which, and the decomposition of vegetable remains, constant malaria is produced, forming a striking contrast to the healthy atmosphere of the neighbouring mountain land. Cotton and corn are the chief products of the plain of Acre, and these form its staple exports.

Previously to 1832 the population of Acre was loosely estimated at from 15,000 to 20,000; but the siege of that year having ended in its almost total destruction, it is impossible to state exactly the number of its present inhabitants, though 9,000 is probably about the mark. The same cause operates to make an account of the place historical, rather than descriptive of its existing state. Even before the period alluded to, a few broken columns of granite, and other dilapidated and neglected relics, were the only remains of antiquity; but of the Gothic age there were, at this epoch, the cathedral churches of St. Andrew and St. John. The mosque of Djezzar Pacha was a fine quadrangular building, paved with white marble, and surmounted by a cupola supported on pillars brought from the ruins of Caesarea. The same governor also constructed a large fountain, of incalculable advantage to the town. The bazaars were numerous and good, being arched over, and well supplied with commodities. Houses built of stone, and flat-roofed, the terraces on their tops forming agreeable promenades; the more useful, as the streets were extremely narrow. At present, however, Acre is, or at all events within a year or two was, little better than a mass of ruins; of all its buildings, public or private, the fountain of Djezzar was the only one that escaped uninjured from the effects of the siege by the Egyptians in 1832.

Although the modern town be of comparatively recent date, its site has been occupied by buildings from the remotest antiquity. Here stood a Hebrew, or perhaps a Phœnician city, called *Accho*. Being improved and enlarged by the Greek sovereigns of Egypt, they gave it the name of Ptolemais; and it was justly regarded by them and their Roman successors as a port of great importance. Syria was one of the first conquests of the Mohammedans (see ARABIA), into whose hands Ptolemais fell, A.D. 636. It then received the name of Akka, which continues to be its Saracenic appellation. In 1104 it was captured by the first crusaders, and formed for eighty years part of the kingdom of Jerusalem, when it was taken by the famous sultan Saladin. About four years afterwards Richard Cœur de Lion and Philip Augustus appeared before its walls, and after a siege of twenty-two months it surrendered to their arms in 1191. It subsequently remained in the possession of the Christians exactly a century; and under the government of the Knights Hospitallers of St. John attained considerable importance and prosperity. It derived from the magnificent cathedral erected by these soldier monks to their patron saint its common western name of *St. Jean d'Acre*. In 1291, however, the knights were driven from Syria, and Acre was the spot on which their last desperate but useless struggle took place. From 1291 till 1517, it formed part of the Caliphate, when it passed, with the last paltry wrecks of that once mighty power, into the hands of the Turks. Neglected by the government, and exposed to the depredations of every wandering tribe, it continued to decay, till, in the beginning of the 17th century, it was seized by Fakr-el-din, the celebrated emir of the Druses, under whose wise and energetic government it began to show symptoms of returning prosperity; but in the latter part of

his life Fak'r-el-din, apprehending a Turkish invasion, destroyed the harbour, and thus left the place in a worse condition than that in which he found it. Another century of decay and misery ensued, till, in 1749, the Bedouin Arab Daher expelled the Turkish aga, and made Acre the capital of a territory which for more than 20 years was virtually independent of the Porte. Daher partially fortified Acre, partly cleared its ruins, and settled colonies of Greek and Mussulman farmers, harassed and despoiled in the neighbouring countries, in the surrounding plain. On Daher's fall in 1775, Acre reverted to the dominion of the Turks. For once, however, the change of masters was not productive of ruin. Djezzar, who was immediately appointed pacha, how inferior soever to Daher in personal character, seems to have resembled him in his political energy, promptness, and decision. He strengthened the fortifications and embellished the town. The determined and successful resistance which it made in 1799 to the arms of Napoleon have rendered it famous in modern history. There is, indeed, good reason to think that the termination of the siege had a powerful influence over the future fortune of that extraordinary person, and consequently of the world. (See *Voyage du Maréchal Marmont*, iii. p. 76.) Acre continued to prosper till 1882. Though fettered by imposts and monopolies, it carried on a considerable foreign trade, and had resident consuls from most of the great states of Europe. During its siege by Ibrahim Pacha in 1882, which lasted 5 months and 21 days, its private and public buildings were mostly destroyed. In 1840 it was bombarded by the English and Austrian fleets, through whom it was restored to the sultan. It has not recovered its former prosperity. (Volney's and Robinson's Travels, and Russell's Palestine.)

ACRI, a town of South Italy, prov. Cosenza, cap. cant., on the Mucone, in a healthy situation; 12 m. N. E. Cosenza. Pop. 11,736 in 1862. It has 6 parish churches and a hospital. The surrounding country is very fruitful.

ACTIUM. See **ARTA**, **GULPH** OF.

ACTON, a village and parish of England, formerly resorted to for its mineral waters; 8½ m. W. St. Paul's, on the North London railway. Pop. of parish 8,161 in 1861. Acton has in recent times become a suburb of the metropolis. (See **LONDON**.)

ACUL, an inconsiderable sea-port town of Hayti, on its N. coast. Lat. 19° 47' 40" N., long. 72° 27' 13" W. It was called St. Thomas by Columbus.

ADALLA, or **SATALIEH**, a sea-port town of Turkey in Asia, Anatolia, cap. Sangiack Teké-ili, on the gulph of the same name, near the mouth of the Donden-sou, lat. 36° 52' 15" N., long. 30° 45' 3" E. Estimated pop. 8,000, two-thirds Turks and one-third Greeks. It is finely situated, being built amphitheatre-wise round a small harbour on the declivity of a hill, the summit of which is surmounted by a castle. It is enclosed by a ditch, a double wall, and a series of square towers about 40 yards apart. Streets narrow, and houses mostly of wood. It is the residence of a pacha and of a Greek archbishop; and has numerous mosques, charches, baths, caravansaries, &c. The surrounding country is beautiful, and the soil deep and fertile.

Adalia is supposed to occupy the site of the ancient Oibia; and the fragments of columns and other remains of antiquity found within its walls, attest its former flourishing state.

ADAM'S PEAK, the highest mountain in the island of Ceylon, altitude 7,420 feet; 45 m. ESE.

Columbo. It has a sugar-loaf shape; and its summit, supposed to be the point where Buddha ascended to heaven, is esteemed sacred, and is resorted to by pilgrims.

ADANA, a town of Asia Minor, the capital of a district or government of the same name, on the Sihon (Sarus), about 25 m. above where it falls into the sea, lat. 36° 59' N., long. 35° 16' E. Estim. pop. 20,000. It is very ancient, stands on a declivity, surrounded on all sides by groves of fruit trees and vineyards; is large, well-built; has a castle; a bridge over the river, said to have been built by Justinian; and a noble portico in the middle of the bazaar. It carries on a considerable trade in wine, fruits, and corn. In summer it is rather unhealthy, and the majority of the inhabitants retire to the country. (Kinneir's Asia Minor, &c. p. 181.)

ADARE, an ancient town of Ireland, co. Limerick, with some fine ruins, now much decayed, situated on the Maig, over which it has a bridge of 9 arches; 130 m. SW. Dublin. Pop. 816. Ditto of parish 2,944 in 1861.

ADDA, a celebrated river of Italy, formed by the junction of several rivulets near Bormio, in the Valteline. Having traversed that province, it passes Sondrio, enters the lake of Como near its northern, and issues from its southern extremity, and passing Lodi and Pizzighettone, falls into the Po 6 m. W. Cremona.

ADELAIDE, a city of South Australia, cap. of the British colony of that name, about 7 m. SE. from its port, an inlet on the E. side of St. Vincent's Gulph. Lat. 34° 57' S., long. 138° 38' E. Pop. 7,143 in 1846, and 18,303 in 1861. The munic. boundary comprises rather more than 1,000 acres. It is divided into N. and S. Adelaide by the river Torrens, here crossed by several bridges. Both portions of the town stand on gentle elevations, and are regularly laid out: the streets, which vary from 70 to 180 ft. in width, mostly cross or meet each other at right angles, and there are several good squares. The S. is a good deal larger than the N. division of the city; it includes the government house, hospital, &c., with some handsome terraces and villas, having from ¼ to ½ acre of shrubbery and garden ground attached. Along King William Street, the central thoroughfare, are many large buildings, including the government offices and commissariat stores, with many good private houses and shops of all descriptions. Hindley Street is the principal place of business, and here is to be observed all the bustle of a flourishing town. It is lined on both sides with good stone, brick, or wooden houses, some of which are of superior build, and do credit to Australian street architecture. Many of the stores or merchants' warehouses are massive brick or stone buildings. The government house, near the river, is a fine house, surrounded by about 10 acres laid out in ornamental gardens. A botanic garden was established in 1855, and in 1868 a special grant of 1000*l.* was allowed for a conservatory, filled with palms and other tropical produce. Among the other principal edifices are Trinity and St. John's churches, the legislative council house, court house, the office of the S. Australian bank, an auction mart, the offices of the S. Australian Company, and a large prison, built at a cost of 84,000*l.* In the centre of Light Square is a handsome Gothic cross, 45 feet high, erected to the memory of Colonel Light, the founder of the city. Adelaide has chapels for Presbyterians, Roman Catholics, Baptists, Independents, Methodists, German Lutherans, and others, a Friends' meeting house, a Jews' synagogue, numerous schools, the S. Australian bank, and a branch of the Australasian do., S.

Australian Assurance Company, a philanthropic institution, and a mechanics' institute. Several newspapers are published in the city. It manufactures woollen goods, starch, soap, snuff, and machinery, and it has a variety of steam and other mills, with breweries, tanneries, and malt houses. Its trade in ores and wool is already very extensive, and it will necessarily increase with the increase of the trade of the colony, of which it is the grand emporium. Adelaide exported 5,699,200 lbs. of wool in 1860; 6,662,020 lbs. in 1861; and 7,162,082 lbs. in 1862. Around the city on the E. and S. is a semicircle of hills, some rising to upwards of 2,000 ft. above the sea; and within a few miles are some of the principal copper and lead mines, to which, especially the former, the colony owes great part of its prosperity.

The river Torrens, on which Adelaide is built, loses itself in a marsh before reaching the sea, so that the city is from 6 to 7 m. distant from its port, an inlet of St. Vincent's Gulph. In the rainy season the Torrens is much flooded, though it seldom overflows its banks, which are steep and lofty; but in the dry season it has no current, its bed being then formed into a series of pools or tanks.

Port Adelaide, 7 m. NW. from the city, in a low and marshy situation, consists of a number of dwelling-houses and warehouses, many of which are of stone, with wharves, partly belonging to government, and partly to the South Australian Company. The inlet of the sea forming the harbour, opposite the entrance to which a light vessel is moored, stretches from the gulph, from which it is separated by a narrow neck of land, for about 8 m. southward, surrounding Torrens Island. There entered at Port Adelaide, in the year 1862, a total of 293 vessels, with a tonnage of 92,120. Of these, 278 vessels, of 86,230 tons, were with cargoes, and 20 vessels, of 5,890 tons, in ballast. The clearances, in the same year, amounted to 282 vessels, of a total burthen of 92,502 tons. Port Adelaide has a custom house; but vessels are exempted from all port charges in this and in the other parts of the colony. A railway unites the city with the port. (For further information in regard to the trade of this city and of the colony generally, see AUSTRALIA, SOUTH.)

Adelaide was founded in 1834. In 1842 it was incorporated by an act of the colonial legislature as a city under a mayor, aldermen, and common council. (Wilkinson, Dutton, Bennett, S. Australia; Statistical Tables relating to the Colonial Possessions, 1864.)

ADELSBERG, a village and cavern in Illyria, about half way between Laybach and Trieste. The cavern is decidedly the most magnificent and extensive hitherto discovered in Europe. It has been explored to a distance of between 1 and 2 miles (1310 fathoms) from the entrance, and is terminated by a lake. It is believed, however, that this is not the end of these vast hollows, and that, were it carefully examined, its extent would be found to be much greater. The cavern is placed under the care of an officer in the adjoining village, who appoints guides to conduct strangers through it. It is easily accessible, and may be visited without any risk. The entrance is situated about a mile from the village, in the face of a cliff, below a ruined castle. At this point the river Poik, after winding through the plain, disappears beneath the mountain, sinking into the rock below a natural penthouse formed by the slope of the limestone strata. The entrance for visitors is a small hole above this, closed by a door. At a distance of 180 yards from the mouth, a noise of rushing waters is heard, and the Poik may be seen, by the light of

the taper, struggling along at a considerable depth below; and on a sudden a vast hall 100 feet high, and more than 800 long, called the Dome, is entered. The river, having dived under the wall of rock on the outside, here re-appears for a short space, and is then lost in the bowels of the mountain. It is believed to be identical with the Unz, which bursts forth at Planina; planks of wood, thrown into the stream of the cavern, appear there, it is said, after ten or twelve hours.

The Dome was the only part of the cavern known down to 1819, when a labourer, working in the cave, accidentally broke through a screen of stalactite, and discovered that this was, to use the words of Russel, 'but the vestibule of the most magnificent of all the temples which nature has built for herself in the region of the night.' Rude steps, cut in the rock, lead down the sloping sides of this chamber to the level of the river, which is crossed by a wooden bridge; and the opposite wall is scaled by means of a similar flight of steps. Here the visitor enters the newly-discovered part of the cavern, consisting of a range of chambers varying in size, but by far the most interesting, from the variety, beautiful purity, and quantity of their stalactites. Sometimes uniting with the stalagmite below, they form a pillar worthy to support a cathedral; at others a crop of minute spicules rises from the floor; now a cluster of slender columns reminds one of the tracery of a Gothic chapel, or of the twinnings or interlacings of the ascending and descending branches of the banyan tree. The fantastic shapes of some masses have given rise to various names, applied by the guides, according to the likeness, which they imagine they can trace in them, to real objects; such as the throne, the pulpit, the butcher's shop, the two hearts, the bell, which resounds almost like metal, and the curtain (Vorhang), a very singular mass about an inch thick, spreading out to an extent of several square yards, perfectly resembling a piece of drapery, and beautifully transparent. The stalactical matter pervades almost every part of the cavern; it paves the floor, hangs in pendants from the roof, coats and plasters the wall, cements together fallen masses of rock, forms screens, partitions, and pillars. The only sound in the remote chambers is produced by the fall of the drops of water charged with lime, which are found, on examination, to tip each pendant mass, forming an ascendant spire, or stalagmite, on the spot where it descends. One of the long suite of chambers, larger and loftier than the rest, and with a more even floor, is converted once a year (in May) into a ball-room. On that occasion the peasant lads and lasses assemble from miles around, and the gloomy vaults re-echo with sounds of mirth and music.

ADEN, a small state of S. Arabia in Yemen, lying between 12° 32' and 18° 8' N. lat., and between 48° 30' and 45° 30' E. long. It extends from E. to W. about 115 m., its greatest width being about 80. The mountains in this part of Arabia are close upon the sea, and, for an Arabic district, it is well supplied with water; and from both these causes the heat of the climate is considerably mitigated, and vegetation flourishes upon a more extensive scale than in most other parts of the peninsula. It has a considerable forest. The cultivated parts produce wheat, dhourah, and cotton; the woods consist of mangoes, sycamores, and pomegranates, and the surface of the whole country is interspersed with date trees. Wellsted (Travels, ii. 409.) states that in purity of atmosphere, richness of soil and verdure, nature of vegetation, and proximity of production and desolation, this country resembles Egypt. The barren parts are represented as *peculiarly* so; but they occur in

comparatively small patches, and in the midst of fertility. The inhabitants are mostly agriculturists; but such is the miserable state of the country, that the husbandman never goes to his labour without being armed, and resorts to the towns for security during the night. The town inhabitants of the interior carry on an extensive trade with the Bedouins, who bring to market their ghee (butter), frankincense, and milk, receiving in return grain and cloth. Manufactures limited to a fine striped cloth or silk, used for the dresses of the superior classes, the weaving of which occupies about 30 looms in the town of Lahedsjea.

ADEN, a sea-port town of Arabia, cap. of the above state, now in the possession of Great Britain, on the Indian Ocean, 118 m. E. from the straits of Babelmandeb, lat. $12^{\circ} 46' 15''$ N., long. $45^{\circ} 10' 20''$ E. It stands on the E. side of a promontory, projecting S. into the ocean, called the Peninsula of Aden. This peninsula, which terminates in a lofty mountain, bearing a striking resemblance to the rock of Gibraltar, is connected with the main land by a low isthmus about 400 yards in breadth. On the N. and W. the town is overhung by steep and craggy rocks, on which are the remains of old fortifications. The E. or outward harbour of Aden, formerly (and apparently at a recent period) large and commodious, is now partly filled up with sand. But the harbour on the W. side of the town, between the promontory on which it stands and another parallel thereto, is a magnificent basin, capable of accommodating the largest fleets. It has a contracted entrance, which might easily be fortified, so as to make it inaccessible to a hostile squadron. From this harbour the approach to the town is over a low ridge of the mountain, the road being in parts cut through the solid rock.

The site of this town, the best adapted for trade on the whole coast of Arabia, and the key of the Red Sea, has always made it a point of primary importance in the direct trade between Europe and the East. It became at a very early period a celebrated emporium (the *Arabia emporium* of Ptolemy). After the Romans obtained possession of Egypt, and Hippalus (A. D. 60) had discovered the direct route to India, they destroyed Aden lest it should fall into hostile hands, and interfere with their monopoly of this lucrative traffic. (Vincent's Commerce, &c., of the Indian Ocean, ii. 327, 528.) It is not known when or by whom it was rebuilt; but from the 11th till the 16th century it was the great, or rather the exclusive, entrepôt of Eastern commerce. The discovery of the passage by the Cape of Good Hope was the first great blow to its importance. Simultaneously with the appearance of the Portuguese in India, the Turks, under Solymann the Magnificent, took possession of various Arabic ports, Aden among the number. They erected the fortifications, the ruins of which excite the admiration of every traveller, and which repelled the attacks of the famous Portuguese general Albuquerque. From this date, however, Aden rapidly declined; nor did the expulsion of the Turks, which took place about the middle of last century, retard its downfall. Its ruin was more complete than could have been anticipated; for its convenient harbours and plentiful supply of water make it, apart from other considerations, a most desirable port.

When first occupied by the British, Aden had not more than 100 houses, with a parcel of wretched huts, and from 3,000 to 4,000 inhabs. It had indeed the ruins of several cisterns and reservoirs cut in the solid rock, and of aqueducts for conveying water from the mountains of the interior, which fully testified its former greatness. But within the last twenty years a vast change has taken place,

and the ancient prosperity of Aden bids fair to be again restored. Hotels for the accommodation of the passengers by the steamers have been erected; and the population of the vicinity, attracted by the security afforded by the English flag, have flocked to the place, which has now an estimated pop. of 50,000. Defensive works have recently been constructed, which are considered to render it impregnable, and make it the Gibraltar of the Red Sea. Its great deficiency was formerly the supply of water, though the supply was abundant as compared with many other Asiatic towns. The sources of supply are—the adjacent plain, from which brackish water is drawn, and a condensing apparatus used by the residents. It rains only once in three years, when the rain descends in torrents for about a fortnight in September. To husband the rain-water the British have lately constructed a system of reservoirs in a rocky ravine, at a cost of 1,000,000*l.*, in order to supply the inhabitants in dry weather.

While its commanding position, excellent port, and abundant supply of water, make Aden an important station in the route from India to Europe by the Red Sea, it is no less favourably situated for becoming an *entrepôt* for the contiguous countries of Arabia and Africa. It owed its former consequence mainly to its natural advantages, and these it still retains. It is becoming more and more an important emporium, and bids fair to be of the greatest utility to the surrounding continents. The climate though hot is not unhealthy.

(Niebuhr, Descr. del' Ar. par. ii. pp. 221, 222; Forster's Historical Geography of Arabia, ii. 104 and 156; and recent and official documents.)

ADJYGHUR, a town of Hindostan, prov. Allahabad, lat. $24^{\circ} 50'$ N., long. $80^{\circ} 8'$ E. It has a fortress at the top of a steep hill that was taken by the British in 1809, after a stout resistance. Estimated pop. 45,000.

ADIGE, a large river of Italy, the *Atesius* or *Athesis* of the ancients. It is formed by several rivulets which have their sources in the Rhetian Alps, and unite near Glurns; thence it flows E. till near Bolzano it is joined by its important tributary, the Eisack. It then takes a southerly course past Trent, where it becomes navigable, Roverodo, and Pontone. It then changes its course to the E., and passing Verona, Legnano, and Aquileia, falls into the Adriatic, 20 m. S. Venice. It is deep, rapid (*Velox Athesis*, Claud.), and is usually navigated with difficulty. In spring, on the melting of the snow in the mountains, it is liable to sudden floods, to prevent the injurious influence of which in the Polesino of Rovigo and other low grounds, it is fenced by strong banks, while a part of the surplus water is carried off by canals. Exclusive of the Eisack, its principal affluents are the Noce, Avisio, and Agno.

ADMIRALTY ISLAND, an island on the W. coast of America, between George the Third's Archipelago and the continent, about 90 m. long and 25 broad. Lat. $57^{\circ} 2'$ to $58^{\circ} 24'$ N., long. 134° W.

ADMIRALTY ISLANDS, a cluster of 20 or 30 islands in the South Pacific Ocean, of which the largest, called Great Admiralty Island, is from 55 to 60 m. in length: in about $2^{\circ} 10'$ S. lat., and from 126° to 128° E. long. They were discovered by the Hollanders in 1616, and are inhabited.

ADOUR, a considerable river in the SW. of France. It has its source in the Pyrenees, 6 m. E. Barèges, whence it flows N. by Bagnères and Tarbes to Oise; here it takes an easterly course, and passing St. Sever, Dax, and Bayonne, falls into the sea a little below the latter. It is navi-

gable to St. Sever. The Oleron and the Pau are the most considerable of its affluenta.

ADOWA, the capital of Tigré, in Abyssinia, partly on the side and partly at the foot of a hill, commanding a magnificent view of the mountains of Tigré. Lat. $14^{\circ} 12' 30''$ N., long. $39^{\circ} 5' E$. The houses are all of a conical form, pretty regularly disposed into streets or alleys, interspersed with trees and small gardens. Pop. probably 8,000. It has manufactures of cotton cloths, and an extensive trade in cattle, corn, salt, and slaves.

ADRA, a sea-port town of Spain, cap. district same name, prov. Granada on the Mediterranean, 45 m. SE. Granada. It is situated near the mouth of the Adra. In its vicinity are some of the richest lead mines in the world, the produce of which constitutes the principal article of export from the town.

ADRAMIT, a village of Armenia in Russia, situated on the shore of Lake Van. It is a place of some beauty as to situation, being nestled in among crags and rocks, at the foot of which, wherever space is available, fruit trees and small gardens are planted. The huts, of the same miserable description as other Armenian villages, are built of rough stones, put together with mud, and erected close up to the side of a hill, into which part of the dwelling is excavated. The flat summit of the rocky hill on the slope of which the village stands is surrounded by an ancient wall, built of huge stones laid one upon another, without mortar or cement of any kind, and resembling cyclopean remains. (Usher's Travels, p. 824.)

ADRAMYT, a town of Turkey in Asia, Anatolia, about 4 m. from the E. extremity of the gulph of the same name, 78 m. N. Smyrna, lat. $38^{\circ} 29' N.$, long. $26^{\circ} 57' 15'' E$. Pop. 6,000 (?). Streets narrow, ill-paved, and filthy; houses, with few exceptions, mean, and miserably built. The olives produced in the adjoining territory, with large quantities of wool from the interior, are principally shipped for Constantinople; little except galls being shipped for other parts of Europe.

ADRIA (an. *Atria* or *Hatria*), a town of Northern Italy, deleg. (formerly the Polesino of) Rovigo on the Castagnano, between the Po and the Adige, 12 m. E. Rovigo. Lat. $45^{\circ} 2' 57'' N.$, long. $12^{\circ} 3' 55'' E$. Pop. 12,903 in 1858. Adria is a very ancient city, being supposed to be of Greek origin, and having afterwards formed part of the dominions of the Etruscans. It was originally a sea-port of such magnitude and importance as to be able to give its own name to the great arm of the Mediterranean on which it stood; but owing to the gradual extension of the land, in consequence of the mud and other deposits brought down by the rivers, the port of Adria has been long since filled up, and it is now an inland town 18 or 19 m. from the sea. When Strabo wrote, it had become a comparatively unimportant place, and it subsequently suffered much from inundations and war, particularly from the attacks of the barbarians. During the twelfth century it began to revive. Its climate, which had become very unhealthy, and its environs, have both been materially improved by the drainage effected by opening the canal of Portovico. It is the seat of a bishopric, has a fine collection of Etruscan and Roman antiquities found in the vicinage, with manufactures of silk and leather. The surrounding country is productive of corn, wine, and cheese. (Cramer's Ancient Italy, i. p. 116, Balbi Abregé, ed. 1837.)

ADRIANOPOLE (called *Edreneh* by the Turks), a celebrated city of Turkey in Europe, prov. Roumelia, on the Maritza (an. *Hebrus*), where it is joined by the Toonga and the Arda, 134 m. NW. Constantinople, lat. $41^{\circ} 48' N.$, long. $26^{\circ} 29' 15''$

E. Adrianople has, according to Mr. Vice-Consul Blunt (Report, 1864), 18,000 houses and a pop. of 90,000 souls, of whom 28,000 are Mohammedans, 56,000 Christians, and 6,000 Jews. It contains 60 mosques, 14 churches, and 18 synagogues; 1 military school, and 87 other schools, with 2,780 pupils; 2 hospitals and 1 madhouse. It is beautifully situated in one of the richest and finest plains in the world, on the sides and base of a low hill, and when viewed from a distance has a magnificent appearance; but, as is the case in most Turkish towns, the illusion vanishes on entering. The streets are narrow, crooked, and filthy; and in certain periods of the year it is unhealthy. Some of the houses are three stories high, and their shelving roofs project so much as to meet those on the opposite side. In the centre of the town an old wall, supported by massive towers, the work of the sovereigns of the Lower Empire, encloses a space occupied by the rayah population. Originally it may have been the citadel; but it is now useless as a defence. Among the public buildings the most distinguished are the ancient palace of the sultans, in a state of decay; the famous bazaar of Ali Pasha, appropriated to the warehousing and sale of various descriptions of commodities; and the numerous mosques. Of the latter, the one erected by Selim II. is the most splendid; and ranks, indeed, among the finest Mohammedan temples. There are 8,000 shops and several large stone bazaars and hauss. The largest bazaar is that of 'Ali Pasha': it is some 350 paces long, with rows of shops on each side occupied by retail dealers in foreign and native manufactures. There are also numerous baths and fountains supplied by water conveyed into the city by an aqueduct. A medrassah, or superior school, is attached to the mosque of Sultan Selim, and there are a number of other schools. The Maritza is navigable up to the city during winter and spring; but in summer the sea craft only ascend as high as Demotica. Enos, at the mouth of the Maritza, is properly the sea-port of Adrianople. It formerly admitted large vessels; but owing to the carelessness of the Turks, who have allowed a sand-bank to accumulate, it is now accessible only to vessels of comparatively small burden. With the exception of tanning, which is rather extensively carried on, manufactures are inconsiderable. It has, however, a pretty extensive commerce. The exports consist principally of the raw products of the adjacent country, comprising excellent wool, cotton, silk, tobacco, good wine, otto of roses, fruits, berries for dyeing, &c. The imports consist principally of manufactured goods; as cottons and hardware from England, woollen stuffs from Germany, &c. The trade is principally carried on by Greek merchants. The corporations of saddlers and shoemakers employ a great number of workmen, and annually dispose of large quantities of Turkish saddles and shoes at fairs held in Thrace and Bulgaria. The town is the seat of a Greek archbishop.

In early times Adrianople was the capital of the Bessi, a people of Thrace, and was then called Uskadama. It derives its present name from the emperor Adrian, by whom it was improved and embellished. The Turks took it in 1360; and it continued to be the seat of their government from 1366 till the taking of Constantinople in 1453. It was occupied by the Russians in 1829; but was evacuated on a treaty being concluded between them and the Turks in September that year. (Keppell's Journey across the Balkhan, i. pp. 250—563; Walsh's Journey from Constantinople to England, p. 144; Report by Mr. Vice-Consul Blunt, Commercial Reports, July to December, 1864, pp. 165-7.)

ADRIATIC SEA, or GULPH OF VENICE (*Mare Adriaticum* or *Superum*), is that great arm of the Mediterranean extending SE. and NW. between the coasts of Italy on the W. and those of Illyria and Albania on the E., from about 40° to 45° 55' N. lat. Its southern extremities are the Capo di Leuca, or St. Mary's, in Naples, and the isle of Fano to the N. of Corfu; and its northern extremity the bottom of the gulph of Trieste. Its greatest length from Cape Leuca to Trieste is 450 m.; mean breadth 90 m. It derived its ancient name from the once flourishing sea-port town of Adria (which see), now 18 m. from the shore, and its modern name from Venice. Its W. or Italian shore is deficient in harbours, is generally low, and from the entrance to Rimini has deep water; but from the latter northwards it has been partially filled up by the deposits brought down by the Po and the Adige, and is edged by lagoons, marshes, and shoals. On the E. side its coasts are generally high, steep, and rocky, and are broken into deep bays and gulphs formed by the numerous islands by which it is fenced. With the exception of those already mentioned, it receives no river of any considerable magnitude; and the saltness of its waters is said to exceed that of the ocean. The ebb and flow are considerable at Venice and other places. The *bora* or NE. wind is the most formidable obstacle to its safe navigation. It comes on in sudden and impetuous squalls, which generally continue for three days, and in an advanced season from 9 to 15 or more. A vessel overtaken by it should always make for a port or anchorage ground on the E. coast, those on the W. being open and unsafe. The SE. wind throws up a heavy sea; but is not dangerous, as vessels may easily get to an anchorage on the E. shore. Venice, Trieste, Ancona, and Fiume are the principal trading ports on the Adriatic.

AERSCHOT, a town of Belgium, prov. S. Brabant, on the Demer, 9 miles NE. Louvain. Pop. 3,895 in 1856. It was formerly fortified; and has some breweries and distilleries.

AFFGHANISTAN, the name applied to a country of Central Asia inhabited by the Afghan nation; and, sometimes, to a kingdom of which that country formed the principal part. In the latter sense, the boundaries of Afghanistan have been subject to the same political changes which have affected other Asiatic states. In the former, considered as the country of the Afghan people, it may be described as extending from the 30th to the 35th degree of N. latitude, and from the 62nd to the 71st degree of E. longitude; having the Indus on the E., the crest of the Himāleh or Hindoo-Coosh, and part of the Paropamesan or Goor mountains on the N.; the districts of Seeweestan, Cutch Gundava, and Sareewan, with part of the desert of Beloochistan on the S.; part of Sistān, with Ghorian of Khorasan on the west; and Merghāb, and the Hazareh country on the NW. According to the most recent authority (Bellew, *Mission to Afghanistan* in 1857, pp. 1, 2), Afghanistan is not so designated by the Afghans themselves, although the name is not unknown to them. By the Afghans their country is usually called 'Urīayat' (hence the term 'Urīayate' often applied to its people by the natives of Hindustan), or native country; but it is also distinguished by two appellations, including different portions of territory, viz. 'Caulul,' or 'Kabulistan,' which includes all that mountainous region north of Ghazni and Sufaid Koh, as far as Hindoo-Coosh, limited towards the west by the Hazareh country (the ancient Paropamisus), and eastward by the Abba-Sin, or Father of Rivers, the Indus; and 'Khorasan,' or 'Zabulistan,' which includes all that

extensive tract of country, Alpine in its eastern limits, and table-land or desert in its western extent, which stretches southward and westward from about the latitude of Ghazni, and borders on the confines of Persia, from which towards the south it is separated by the desert of Sistān. To the Afghans the Persian province of Khorasan is known by the name of Ivan. The existing political state of Afghanistan may be said to lie between lat. 26° 50' and 36° 30' N.; long. 60° and 72° 30' E., having E. the Punjab; S. Buhalpoor, Sind, and Beloochistan; W. the Persian dominion; and N. Independent Turkestan, from which it is separated by the Hindoo-Coosh.

Divisions and Aspect of the Country.—The former depending rather upon natural features and formation than upon political or artificial arrangement, will best be noticed in describing the latter. This, so far as is known, presents an aggregation of mountainous groups and ranges, diverging from certain principal points, and thus becomes divided into numerous valleys of greater or lesser size, which are watered by streams of corresponding magnitude, and which sometimes stretch out into plains of considerable extent. The south face of the Hindoo-Coosh is furrowed by a variety of subordinate glens and ravines, which carry their waters to the Caulul river. This stream, which rises near Ghiznee, but drains also the highlands of Kohistan, runs in a large and frequently very broad valley from that city to the Indus, which it enters at Attock. It separates the mountains of Hindoo-Coosh from those to the southward, which, originating in the huge peak of Spengur or Suffeed-koh (White Mountain), spread east and west, confining the Caulul valley on the south, and stretch in a variety of huge ranges in that direction: one of these uniting with that of the Tucht-e-Soly-maun, extends to Dereh Ghazee-khan; another enters Seeweestan; and another, tending more to the westward, by Shawl and Pisheen, sinks into the deserts of Beloochistan and Sistān.

The Caulul valley is the most important of the natural divisions thus constituted. It contains the largest river, the finest plains, and the principal cities of the country, including the ancient town of Ghiznee; and extends from the westward of Baumian to the Indus, a distance of more than 200 miles. It is subdivided into several sections, of which the western is formed by Kohistan or 'the Highlands,' comprising the valleys and lowlands of Nijrow, Punjsheer, Ghorebund, Tugow, and Oozbeen, which are all blessed with a delightful climate, embellished with the finest scenery, produce the finest fruits in abundance, and are well watered and cultivated.

Lugmaun, also on the north side of the river, comprehends the valleys of Alingār and Alisheng, with numerous subordinate glens, all equally rich and beautiful. The fertile plains of Jelalabad afford the produce of both torrid and temperate climates. The Deil of Coonnur forms but a bed for the rapid river of Kaskhār, which, traversing Kafferistan, here pierces the Himāleh range to join that of Caulul. The small valleys of Punjcora and Bajour pour their streams into the more extensive and very fertile district of Swant, where forest, pasture, and cultivated land are found admirably blended, and every valuable fruit and grain is produced. The same description will apply to Boonere, Choomla, and all the glens that discharge their waters into the Caulul or Indus rivers from the north. Peshawur, the lower division of the great Caulul valley, is divided from the plains of Jelalabad by a range of small hills, which stretch from the Hindoo-Coosh across to the Suffeed-koh.

It is well watered and extremely rich, but suffers from heat in summer.

Damaun, which signifies the 'skirt,' and is the tract between the foot of the Solymaun mountains and the river Indus, is poorly cultivated and thinly inhabited; being chiefly hard tenacious clay, scantily covered with tamarisk and thorny shrubs. It is bounded on the north by the Salt range of the Khuttuk country, and stretches southward to Dereh Ghazee Khan. A wide extent of mountains intervenes between this district and the valleys which furrow the western face of the Solymaun range; but even in this wild region we hear of fertile tracts. The plain of Boree, for instance, is compared by the natives to that of Peshawur for extent and richness; the rivers Zhobe and Goomul water some fine valleys; and Tull, Chooteealee, and Furrah are mentioned as well peopled and cultivated.

Among the valleys opening westward, those of Shawl, Burshore, Pisheen, Yessoon, Saleh, Urghessan, Guashtâ, are described as interspersed with well cultivated spots, but as more generally suited to pasturage than agriculture; but the two first are stated to be rich and productive. Beyond these, to the NW., the river Turnuk, rising near Ghiznee, but on the southern slope of the country, runs through a poorly watered and ill cultivated district, till, to the westward of Kandahar, it is joined by the Urgundâb, and both fall into the great river Helmund. The district of Kandahar is fertile and highly cultivated, but is circumscribed within narrow limits by the desert. In like manner the fertile valley of Herât, which may be 30 miles long by 15 wide, constitutes the most important portion of that district.

A vast and varied surface, such as has been described, must naturally exhibit much diversity of aspect and fertility. Of the mountainous tracts, some are covered with deep forests of pine and wild olive trees; others afford excellent pasturage for sheep and cattle, while others again are bare, rocky, and sterile. Of the valleys, as we have seen, many are fertile, well watered, and wooded, especially those which pierce the Hindoo-Coosh range; while others, particularly to the south, are bare, or covered only with tamarisk and thorny shrubs.

Mountains.—These have been already mentioned. The chief ranges are those of Hindoo-Coosh, or Himâleh; the Speengur or Suffeed-koh, called Râjgrul by Captain Burnes, a branch from which joins the Solymaun range; and perhaps that of Khojeh Amrân, which seems to be the prolongation of a spur from the last-mentioned range. The Hindoo-Coosh, or Himâleh, is described by Mr. Elphinstone as rising above the level of Peshawur in four distinct ridges, the lowest of which, clear of snow on the 24th of February, was clothed with forests of oak, pine, and wild olive, and a profuse variety of fruit trees, and graceful herbs and flowers. The second was still more densely wooded; the third was at that time white with snow; and beyond rose the glittering and stupendous crest of the true Himâleh, spiring into sharp peaks and bold masses.

Captain Burnes states that the term Hindoo-Coosh, though applied generally to this chain, which is a continuation of the Himâleh, belongs properly to one single peak, forming the western buttress of the range, which beyond that point declines in height, and is lost in the Paropamesan or Ghôr mountains. The peak of Koh-e-Baba, estimated by him at 18,000 feet high, is the only one covered with perpetual snow to the westward of the passes. Little is known of the height of the other ranges, but the Suffeed-koh obtains its name from its snowy cap. The Tucht-e-Solymaun

is estimated at 12,000 feet in height; and there is a very lofty peak to the south-west, named Kund.

Rivers.—The principal of these have also been mentioned. They are the Caubul, the Helmund, the Turnuk, and Urghundâb; the Goomul, the Zhobe, the Lora. The courses of the three last are little known, and their waters are lost in the sand, excepting in the time of floods.

There are no lakes of any consequence known to exist in Affghanistan.

Climate and Soil.—These vary in an extreme degree, according to locality. In the eastern part of the Caubul valley and in those to the south, bordering on Cutch Gundava, the heat is sufficient to mature all the products of India, such as the sugar-cane, indigo, and some of the tropical fruits; while the northern valleys abound in the productions of cold regions, and the mountains are covered with forests of pines. According to Ferrier (*History of the Affghans*, p. 257), the soil of Affghanistan resembles that of the rest of the great table-land of Central Asia. Within the principality of Caubul, and the northern part of that of Herat, are high mountains covered with forests, having between them vast argillaceous plains well supplied with water, covered with fields, and susceptible of every species of cultivation. The portion south of Herat and Kandahar also consists of immense plains, but generally arid, running from east to west, and bordered by a chain of sterile mountains. The soil of these plains is sandy, and absorbs so much water as to create a great scarcity of that necessary of life within their limits, and the inhabitants are obliged to obtain by long and toilsome labour that which nature has denied them at the surface. They dig a deep hole at the foot of a mountain where they expect to find water, and having succeeded, lead it to their villages by a subterranean canal connecting a series of wells. If the country unhappily becomes the theatre of war, the first operation of the invading army is to destroy them, and deprive the people they come to attack of their supply of water. It is to this unhappy mania of destructiveness, especially in this particular form, that the depopulation of Affghanistan is principally to be ascribed: immense tracts of country have in consequence been abandoned, and become arid; they belong to no one; the land is valueless, and cannot be sold.

Mineral Products.—The mineralogy, as well as the geology, of Affghanistan, is but little known. Burnes tells us of two sorts of sulphur, of wells of petroleum or naphtha; and, of what may prove still more valuable, of coal, which exists in the district of Cohat, below Peshawur. Vast quantities of iron, lead, and sulphur are found in the mountains of Affghanistan, as well as mercury and asbestos—the latter called *singui-pembe*—and silver. But this mineral wealth is entirely unexplored and unused. (Ferrier, *History of the Affghans*.)

Agriculture is in the same rude state as in Persia and most Asiatic countries. The soil is broken by a crooked log of wood, sometimes shod with iron, which is generally dragged by oxen; and irrigation is resorted to wherever rain does not fall in sufficient abundance to bring forward the crops. Only the richest and most promising tracts are thus employed; so that, as the seasons are usually regular, the harvest afforded, even by so rude a process, is for the most part abundant. Wheat, barley, rice, maize, form the produce of the more temperate regions; while in the warmer, the smaller grains common to India, as *moongy*, *chunna*, *joar*, *dâl*, &c., with the sugar-cane, cotton, tobacco, indigo, madder, &c., reward the farmer's labours. Horticulture is carried to a considerable extent in the neighbourhood of the principal

towns; and to the fruits of Europe, in high perfection, are added grapes, pomegranates, figs, the mango, orange, lemon, guavae, plantains, and other fruits of India. Vegetables are also reared in great abundance, and of excellent quality; of these, two, the rhubarb (*ruwash*) and the *assafetida* plant, deserve mention: the former is used when young and tender, blanched artificially, and is eaten both raw and dressed in great quantities, as a very wholesome delicacy; the latter is not only cultivated for its valuable gum, but is eaten roasted, when it springs young from the earth, like the flower of a cauliflower in appearance. It is esteemed a great delicacy; but it smells so strong, that, to those unaccustomed to its odour, one head of it, while being cooked, is enough to poison the air of a whole camp.

The principal animals of Affghanistan are the horse, camel, and sheep. The first two are largely exported into India, and are bred chiefly in the western parts of the country. The camel and sheep constitute the main wealth of the nomad tribes, together with cows, buffaloes, and goats. All the sheep in Affghanistan are of the fat-tailed variety, and are remarkable for the peculiarly brown colour of their wool. From the skins of these sheep, properly prepared, are made the pos-tins, or sheep-skin coats, the common dress of all classes of the people. The wool of the white-fleeced sheep forms an important item of the staple exports of the country, whilst their flesh constitutes the chief animal food of the lower classes. The principal wild animals of the plains are the gazelle, the jackal, the fox, and the wolf. Confined to the western deserts is the wild ass, called, from its colour, the 'gorskhar,' or white ass. Throughout the mountainous districts are found the tiger, leopard, lynx, and hyæna; also the bear and monkey, with more rare specimens of the ibex, the wild goat, and the elk, or 'bara-sing.' (Bell's Mission to Affghanistan in 1857, pp. 11-14.)

Manufactures are confined to home-made stuffs of cotton and wool, and a little silk, which serve for the dress of the inhabitants: little or nothing is manufactured for export.

Commerce.—The disturbed state of the country for a succession of years has been unfavourable to trade; and the large and valuable caravans which formerly carried the rich productions of India and Cashmere to Caubul and Herât, for the consumption of the courts at these cities, or for transit, by Yez, into Persia, have dwindled down to the smallest dimensions. There is still, however, a less extensive traffic carried on, chiefly by a pastoral tribe called the Lohânees, occupying much of the country between the Indus and Ghiznee, who at certain periods of the year repair to India to make their purchases, or receive goods from those who have brought them from thence, at the ferry of Kaheree. With these they return, carrying them on their own camels, through their own country, by the Golairae pass, and the valley of the Goomul, not only to Ghiznee and Caubul, but northward, across the mountains, to Berkharâ. Captain Burnes states, that a thousand camel-loads of English and Indian chintzes, calicoes and muslins, brocades, shawls, Punjab turbans, spices, &c., are yearly consumed in Caubul; in return for which are sent back horses in great numbers, madder, saffron, assafetida, and fruit, both fresh and dried, in large quantities. An official report of Mr. Davies, secretary to the government of the Punjab, states that among the exports from Kurrachee, the following are brought down through the Biluch and Affghan mountains:—Madder, 12,288*l*; assafetida, 2,296*l*; raw silk, 17,975*l*; sheep's wool,

315,104*l*; horses, 92,651*l*; and fruit, 14,914*l*. (Report on the Trade of Central Asia, printed among the House of Commons' Papers, February, 1864.) The commerce of Affghanistan, on the whole, is increasing, and will probably continue to do so. The opening of the river Indus for trade, a channel which, with the Caubul river, enables goods to be conveyed into the heart of Asia, cannot fail to stimulate the commercial propensities of the people, and give rise to a vast increase of traffic.

Population.—There are no very trustworthy data on which to ground a tolerably accurate estimate of the population of this country. It must vary greatly in different districts. The rich tracts bordering the Caubul river, and the fertile glens that penetrate the Hindoo-Coosh, are certainly more densely peopled than the high and bleak pastoral countries to the west. Mr. Elphinstone, from the best information he could obtain, has mentioned the supposed numbers of several of the principal clans; but it is to be feared that these are not to be depended on. Thus the Eussufzehees, who occupy a very small district at the extreme N.E. corner of the country, are set down as 700,000 souls at least; and the whole of the Berdoorânees, a collection of tribes including the Eussufzehees, who inhabit a country of about 15,000 sq. m., are estimated at nearly 1,400,000, or 90 to the square mile. The Dooranees, on the contrary, who occupy at least 52,000 sq. m., are said to amount to only 800,000 or a million, being from 17½ to 19½ per square mile. The Ghiljees, in like manner, from 600,000 to 600,000 souls, are spread over 1,500 sq. m., or about 40 per square mile. This is on a calculation of five individuals to a family, which is too little in these countries.

Now the whole of Affghanistan as here defined does not quite amount to 170,000 sq. m. of surface, of which suppose the richer parts, such as, and including the,

	Sq. m.	Per sq. m.	Pop.
Berdoorânee country, to be .	30,000	at 90	2,700,000
Country of secondary fertility .	20,000	40	800,000
Poor high land, such as much of the Dooranee country .	60,000	18	1,080,000
The remainder, taken at a low average . . .	60,000	20	1,200,000
	170,000		5,780,000
Add estimated amount of Tanjiks, &c. scattered over the country and in cities			1,500,000
Total			7,280,000

And this is independent of Hindoos, &c., who are stated to be numerous.

This estimate, founded on the vague numbers stated above, would give to Affghanistan a population of more than seven millions, or nearly 43 to the sq. m., which taking into account the vast tracts of high and unproductive lands on the west of the Solymaun range, and north of Kandahar and Zeemeendawur, is undoubtedly far beyond the truth.

On the other hand, Mr. Ferrier gives the following estimate and classification of the population:—

	Afghans	Parsiwans and others.
Province of Kandahar . . .	800,000	800,000
Ditto Caubul . . .	1,600,000	800,000
Total	2,200,000	1,100,000

The province of Herât is now under a distinct Affghan government, but otherwise resembles the above-named principalities. Mr. Ferrier's census is as follows:—

	Afghans.	Parsiwans, &c.
Herât	300,000	600,000

The general total is 4,200,000, which is considerably above the estimate of Lieut.-Col. Lumsden, in the report of his mission to Afghanistan in 1857. On the whole, and upon grounds of analogy and probability, therefore, rather than from any existing data, the population of Afghanistan may, perhaps, be regarded as little exceeding four millions.

Tribes.—The Afghan nation is composed of a great number of tribes, who claim a common origin, and differ intrinsically very much from all their neighbours. This origin is very obscure. A native history derives them from *Saul*, the king of Israel, whose progeny was carried away in the time of the captivity; but no proof of this is adduced, and Mr. Elphinstone classes this among other fabulous genealogies. The name *Affghan* is not known to the people, who call themselves *Pooshtoon*, in the plural *Pooshitaneh*, from whence by corruption, *Peitán* or *Patán*, the name they have obtained in India; and of their great antiquity there is no reasonable doubt. Burnes says, the Affghans call themselves 'Bin-i-Israelael,' or children of Israel; but consider the term of 'Ya-hoodée,' or Jew, to be one of reproach. The tribes of Soor and Lodi, from both of which kings have sprung, are mentioned as owing their origin to the union of an Arab chief, Khaled ibn Abdoolah, with the daughter of an Afghan chief, in A. D. 682; and Mahmood of Ghiznee, though sprung from another race, ruled over the Affghans in the ninth century. According to their own traditions, the whole of the tribes descended from the sons of one Kyse or Kais Abdor-reahed, who, whether a real or imaginary character, is the person to whom all their genealogies refer; but as it would be impossible to examine all these, the following classification must suffice to enumerate the principal tribes, with their *habitats*, as they at present exist :—

EASTERN DIVISION.—Berdooranees.

Eussuffzehees.	Peshawur tribes.	Bunguah.
Osman Khell.	Khyburees.	Khuttuk.
Turcoanees.		

Neighbourhood of Salt Range.

Essawkhell.	Bunnooes.	Khoosteas.
Sheetucks.	Dowars.	

Tribes of Damann.

Dowlutkhell.	Baboors.	Gundeporees.
Meankhell.	Sooreanees.	

CENTRAL DIVISION.—Including Mountain Tribes.

Jaujees.	Vizeerees.	Zmurrees.
Zoorees.	Murhells.	Sheeranees.
Jadrans.	Moonakhell.	Speenterees.

WESTERN DIVISION.—Dooranees.

<i>Zeeruk.</i>	<i>Pungepaw.</i>
Popul-zehee.	Noor-zehee.
Alleko-zehee.	Ali-zehee.
Baurik-zehee.	Iakhak-zehee.
Atchlik-zehee.	Kouganee.
	Makoo.

Gilgees.

<i>Tooran.</i>	<i>Booran.</i>
Hotukee.	Solymankhell.
Tokhee.	Alikhail.
	Under.
	Turrukees.
	Wurducks.
Sheerpah.	Baraithees.
Kharotees.	Tor Tereena.

National Character.—This aggregation of tribes, though exhibiting considerable diversity in customs, dress, and appearance, among themselves, form, taken together, a nation singularly homogeneous; yet Mr. Elphinstone remarks, that 'amidst the contrasts which are apparent in the government, manners, dress, and habits of the

different tribes, I find it difficult to select those great features which all possess in common, and which give a marked national character to the whole of the Affghans.' And this becomes the more perplexing, because even the virtues and attributes on which they most value themselves, and which separate them most from their neighbours, are apt to be misunderstood or overlooked by strangers. Thus, an English stranger might regard their wild freedom as but a savage mixture of anarchy and arbitrary power. Alarmed at the absence of any organised government, or regular courts of justice, and witnessing the summary inflictions of retributive and customary law, he might fancy that violence and revenge entirely usurped the place of justice and equity; while the rude hospitality, the bold and simple manners, and martial and lofty spirit of the people, would scarcely in his mind compensate for their proneness to violence and rapine—to the deceit and fraud which are the vices necessarily engendered by the lawless freedom in which they exult.

The traveller from India, on the other hand, sickened with the servile vices of its pliant, timid, and indolent inhabitants, would probably be favourably impressed, not less with the bold and independent bearing of his new acquaintance, than with their sobriety, their superior energy, their strong and active forms, their fair complexions, and features marked and striking even to harshness; and he might view, in the stormy independence of their mode of life, a favourable contrast to the apathy of that which he had left. The result in both cases might be, that, mingled with many a vice and failing, he would find the germ of many a virtue and noble quality; and that however much he might lament their great failings, he would not be able to deny them a portion of his esteem.

One of the strongest characteristics of this people, according to all travellers, is their hospitality, which is founded on national feeling, and there are some usages connected with this principle which deserve mention. The first is that of *Nanawatees* (two Affghan words, signifying, 'I have come in'), by which a person having a favour to entreat goes to the house of the individual on whom it depends, but refuses to sit on his carpet or partake of his food until the boon be granted; and this, if in the power of the party besought, custom makes it imperative on him to concede. A still stronger appeal is the second, being made by a woman, when she sends a person her veil, and implores assistance for herself or for her family.

All persons, even a man's bitterest enemy, is safe under the protection of his roof; but this protection extends not beyond the lands of the village, or at most of the tribe; and it is not uncommon for the stranger who has benefited by it, and experienced the kindest treatment, to be robbed and plundered, when once beyond its influence. 'There is no point in the Affghan character,' remarks Mr. Elphinstone, 'of which it is more difficult to get a clear idea, than the mixture of sympathy and indifference, of generosity and rapacity, which is observable in their conduct to strangers. . . . So much more do they attend to granting favours than to respecting rights, that the same Affghan who would plunder a traveller of his cloak if he had one, would give him a cloak if he had none.' In this, as well as in their regard for hospitality, their customs much resemble those of the Desert Arabs.

The pastoral tribes in the west are more addicted to robbery and theft than the agricultural ones; but, in general, a previous understanding with the chiefs, confirmed by the presence of a single man, ensures

safety; and the Affghans, it is said, are less prone to add murder to plunder than most other rapacious tribes. They are reproached with ignorance, barbarism, and stupidity, by the Persians, but on no sufficient grounds. They are less polished, it is true, and have less of worldly knowledge than their reproachers; but are in general prudent, sensible, and observant, and are less indifferent to truth than most of their neighbours. Like most mountaineers, they are proud of their lineage, and will hardly acknowledge one who cannot prove six or seven descents. Like Highlanders too, they are highly national. Love of individual freedom, strong though it be, is exceeded by devotion to family and clan, and this seems by no means to prejudice their love of country at large; for the '*Nesug du Poosh tarneh*,' or honour of the Affghan name, which is one of the feelings warmest in their breasts, appears to be equalled by local attachments, so strong in all mountaineers. A native of the wild valley of Speiga, who for some offence had been forced to wander abroad, declared on his return that he had 'seen all Persia, India, Georgia, Tartary, and Beloochistan, but in all my travels I have seen no such place as Speiga.' 'To sum up their character in a few words,' says Mr. Elphinstone, with whom subsequent travellers are in perfect agreement, 'their vices are, revenge, envy, avarice, rapacity, and obstinacy; on the other hand, they are fond of liberty, faithful to their friends, kind to their dependants, hospitable, brave, hardy, frugal, laborious, and prudent; and they are less disposed than the nations in their neighbourhood to falsehood, intrigue, and deceit.'

Customs, Manners.—The former of these heads comprehends the internal government of the tribes. This is patriarchal. Tribes are subdivided into branches, which are termed *ooloos*, and each of these are commonwealths, which have their chief or *speen-zherah* (literally white beard), or *malik* (master), if small; or if large, a *khan*, who is always chosen from the oldest family, and is sometimes selected by the king, sometimes by the people. These carry on the internal government, in conjunction with certain assemblies of heads of divisions, which are called *Jeeerga*, and which determine all matters of consequence. In civil actions the statutes of Mahomet are generally adhered to; but criminal justice is administered according to *Pooshmanullees*, or Affghan usage, a system sufficiently rude, and founded on the law of retaliation. This, however, as tending to perpetuate feuds and quarrels, is modified by judicial *jceergas* composed of khans, elders, and moolahs, who inflict suitable penalties on offenders; and in fact this whole system is subject to various and considerable modifications.

A family forced or induced to quit its *ooloos*, may be received into another; and once received, it is treated with peculiar attention, and placed in all respects on an equality with the original members of the community. Every *ooloos*, moreover, has many persons called *Hamsayahs* (or companions), who are not Affghans, and who are regarded with consideration, but not permitted to share in the administration of affairs. Of such *khails oolooos* and tribes the nation is composed; and when placed under one sovereign, has seldom yielded him a full or implicit obedience. Mr. Elphinstone has compared it to that yielded by Scotland of old to its kings, who ruled pretty absolutely over the principal towns and country in their vicinity, but whose authority diminished as it extended to the extremities of the kingdom; whose court nobles were inordinately proud, and whose more distant chiefs were nearly independent.

Women, Marriage.—Their customs with regard to their females are nearly those of most Mohammedan countries; those in towns are jealously secluded, those in the country have greater liberty. They purchase their wives, who therefore are regarded as property. The husband can divorce at pleasure; and a man marries the widow of a deceased brother. The latter, decidedly Jewish custom, is strictly adhered to, and it is a mortal affront for any other man but the brother to take the widow without his consent; but she is not forced to marry at all. The age for marriage is twenty among men, sixteen for women. In towns, courtships resemble those in Persia. In the country, matches are made more according to the liking of the parties. If a lover can cut off a lock of his mistress's hair, or snatch away her veil, and in doing so proclaim her his affianced wife, no other will approach her with these views, and he generally obtains the consent of her parents on payment of her price; if not, they elope; and this offence, which ranks not less gravely than a murder, is settled by intervention of parties. Among some tribes the bridegroom earns his wife by service, as Jacob did Rachel; some permit not the least familiarity before marriage, others an excessive and perilous degree of it. Polygamy is permitted, as in other Mohammedan countries, but less practised; the poor content themselves with one, those of middle rank with two wives, and perhaps as many concubines. The wives of the rich live in luxury and indolence; the poor not only employ themselves in household, but in field labour. In towns they go about, as in Persia, veiled from top to toe; in the country they only veil in the presence of strangers, and that more from decency than obligation. The Affghan women are said to be correct in conduct and deportment; but adultery or incontinence is punished with death to both parties upon the spot, by the injured relative.

Education is conducted much as in the neighbouring countries. A village moolah, or schoolmaster, teaches the children of the poor to say their prayers and to read the Koran; the rich keep *lallas*, or private tutors, in their houses; the village schoolmasters are paid in allotments of land and some small fees. Those intended for the learned professions go to towns, and live in colleges instituted for the purpose of instruction.

Literature is at a very low ebb. The *Pooshtoo* language is an original stock, embracing a good deal of Persian, with some Zend and Sanscrit words: they use, in writing it, the Niskee character of the Persian alphabet; but there are few or no works of much repute in the language.

Religion.—The Affghans are all Mohammedans of the Soonee persuasion, and are superstitious enough, believing in alchemy, astrology, and magic; but are far from being intolerant to others. Hindoos remain unmolested, on paying a slight tax. Christians sustain neither persecution nor reproach; they are called people of the *book*, as deriving their tenets from a written source, which they themselves respect, instead of being pagans, as the Hindoos. Sheahs are detested more than any sect: yet the country is full of Persian sheahs, many of whom held important offices under the crown, and now do so under the several chiefs. Sooffeism (or free-thinking), though denounced by the moolahs, is common, and gains ground among the higher orders. The priests and moolahs, like those of Persia, are avaricious, hypocritical, and bigoted, as well as arrogant and overbearing, and they exert a very absolute and dangerous power over the people. This is strengthened by the occa-

sional exercise of good offices, and by the influence of some rare examples of wisdom and virtue, evinced in repressing bloodshed and violence. But the blind regard of the Afghans for these holy impostors is chiefly attributable to their ignorance and superstition, which lead them almost to adore all dervishes and other ascetics, and to visit their tombs as those of canonised saints.

Personal Appearance, Amusements.—The men of Afghanistan are for the most part robust, generally lean, though bony and muscular. They have elevated noses, high cheek bones, and long faces; their hair is commonly black, sometimes brown, rarely red; they wear long thick beards, but shave the middle of the head: the western tribes are stouter than those to the east; the latter have darker complexions, and more strongly marked features: their demeanour is frank and open, equally free from stateliness and puerility: they are very social, delighting in dinner-parties, smoking after dinner, and sitting in a circle telling stories of kings, viziers, and genii, or singing songs, generally about love, to the sound of instruments like rude guitars, fiddles, and hautboys: they take much snuff, of a high-dried fine-powdered sort, like the Scotch: they are fond of the chase, driving the game into some valley, and killing great quantities; also of coursing hares, foxes, and deer with greyhounds; and they ride down partridges in the open ground, tiring them out till they can knock them down with sticks: they are also fond of horse-racing and fighting cocks, quails, rams, dogs, and even camels. The western Afghans have a dance, called the *attum* or *ghoomboor*, in which ten or twenty people move in strange attitudes, shouting and clapping hands in a circle, round a single person, who plays on an instrument in the centre. The national costume appears to consist of a loose pair of trousers of dark cotton stuff; a large shirt, like a waggoner's frock, reaching a little below the knees; a low cap, the sides being of black silk or satin, and the top of some sort of brocade; half-boots, lacing up to the calf; and a cloak of soft grey felt, or of well-tanned sheepskin with the wool inside. The women wear a shirt like that of the men, but much longer and of finer materials, coloured or embroidered with silk; their trousers are tighter than those of the men; a small cap of bright-coloured silk, embroidered with gold thread, comes down to the forehead or the ears; and they throw over their head a large sheet of plain or printed cotton, with which they hide their face when a stranger approaches; they divide the hair on the brow, and plait it into two locks which fasten behind; they wear round their head strings of Venetian sequins, and chains of gold or silver, which are hooked up, and end in two large balls hanging down on either side: ear rings, finger rings, and nose pendants are worn. In towns the fashions more approach those of Persia, particularly to the westward.

Of individual Tribes.—What has been said applies to the nation in general; but almost every tribe has its peculiar characteristic, which can be but shortly touched upon. The Berdooranees, who occupy the north-eastern districts, are brave but quarrelsome, active, industrious; but selfish, bigoted, and remarkable for vice and debauchery. Their quarrelsome disposition is thought to have given origin to a sort of federative alliance, offensive and defensive, among tribes and subdivisions called *Goondees*, which were held more binding than ties of blood. From these *Goondees*, however, were excepted the *Eussuffzehees*, the most powerful and numerous, as well as most haughty,

insolent, and turbulent tribe of the Berdooranees, who are said to number 700,000 souls. They now occupy Swaut, Bunere, Punjcora, &c., and are notorious for the anarchy which reigns among their *oolooses*. Though an agricultural people, they do not themselves labour; this is left to their *fakirs*, a species of *villains* or servants, consisting of strangers or individuals of conquered tribes of other nations, reduced to serve these invaders, and protected by them for their services. Their masters, or *khawunds*, can beat or kill them at pleasure, but are bound by custom to protect them; and provided they pay the customary tax, and do their work, they may engage otherwise in trade as they please, and are commonly treated mildly.

The *Toorkolanees*, who are brave, active, industrious, and cheerful, are all subject to one powerful chief, who exercises over them a very powerful authority.

The *Khybercees*, who possess the upper branches of the Rajgul or Spengur mountain, and derive their name from the formidable pass of Khyber, are the most rapacious and treacherous robbers of all Afghanistan: no previous agreement secures the traveller from their assaults; they watch the approach of the caravan, matchlock in hand, and choose their victims with certainty and security. They are a lean muscular race, capital marksmen, and carry swords and short spears in addition to their matchlock; they are altogether more uncouth than most of their countrymen.

The *Khuttaks*, occupying the banks of the Indus, from the Causal river to the Salt range, are a tall well-favoured people, as remarkable for honesty and orderly conduct as is their country for dreary and rugged barrenness.

The tribes of *Daman* are said to be more simple and honest, less bigoted and litigious, less vicious and debauched, than the northern tribes. They are a more bony and fairer race than the Berdooranees, and universally wear long hair and beards. They owe the greater order which prevails in their *oolooses* to an establishment of magistrates, formed some fifty or sixty years ago, which has been eminently efficient.

The *Gundepoors* are a particularly thievish and quarrelsome race, in spite of a commercial turn, which leads many of them to make annual trading journeys to India and Khorasan.

The *Baboors* are a civilised tribe, much employed in merchandise. The *Stooranees* were shepherds, till robbed of their pasture lands by the *Caukers*, when they betook themselves to agriculture. These agricultural tribes have all fakirs, or villains, like the *Eussuffzehees*.

Of the central division, the *Jaujees* and *Toorees*, hereditary enemies, live in the glens and valleys of the Solymaun range. The country of the former is colder, wilder, and higher than that of the latter; the mountain sides are covered with pines. The *Jaudraus*, who dwell in a pleasant district westward of the rich plain of Bunnoo, are remarkable only for their disgusting vices.

The *Sheeranees*, who inhabit the borders of the Tukhtu-e-Solymaun, a wild inaccessible country, are very poor and uncivilised, plunder every one, and are at war with all the world; yet they never break their word, and a single individual of their tribe suffices to secure the safety of a party: they are described as wild and savage in their appearance, as in their habits and mode of life. The *Zmurrees*, neighbours of the last, resemble them closely, but are less inveterately predatory. The *Vizeerees*, NW. of the two last-mentioned tribes, live in little societies, among pine-covered mountains, and are equally uncivilised and addicted to plunder; yet the smallest escort ensures safety.

and the chiefs, powerful khans, are, it is said, remarkable for their love of peace. The Vizeeres are divided into a fixed and erratic population. The long valley of Zawura, which opens on the plain of Tull and Chootealee, is inhabited by the white and black (*speen* and *tor*) *Zereens*, great carriers of merchandise between Upper Sinde and Candahar.

The two most noble and important tribes, however, are the *Dooranees* and *Ghiljees*. Their territory consists chiefly of high bleak downs, interspersed with hills, in some parts desert, in others sparsely cultivated, in all open, bare, and fit chiefly for pasture. They are therefore chiefly a pastoral people, with patriarchal habits, and live for the most part in tents of black wool. These (*kizhdees*) are from 20 to 25 feet long by 10 or 12 broad, and 8 or 9 high, supported by a row of three poles, and closed all round with a curtain. In winter they are lined with felt, and are warm and comfortable. The country of the Dooranees is 400 miles long by 130 broad, extending from the Paropamesan mountains to the Khojeh Amrân range. They were formerly called Abdallees, till the late Ahmed Shah, their chief and sovereign, changed the name, in consequence of the dream of a famous saint, he taking that of Shah Doores Doorân. They may amount to 800,000 souls; the Suddoozeeh, from whence sprung the king, is a subdivision of the Populzeeh. The king is their hereditary chief, and military commander of the whole: he claims a horseman's service for every plough of land; and the officers commanding them are the civil magistrates of their respective districts, besides being employed in offices of state at court, when there was a court. The internal government of the clans is better maintained than among other tribes, and the progress of improvement and civilization among the agricultural Dooranees has been correspondingly great. They are generally handsome stout men, with good complexions and fine beards. They are brave and hospitable; and though not quite strangers to rapacity, still may be esteemed the worthiest of their race.

The *Ghiljees* occupy the upper valley of the Turnuk, and great part of the Caubul valley, to the Berdooranee country; a tract which contains some of the principal cities, with some fine districts of land, but the climate of which is cold. The *Ghiljees* were formerly the leading tribe of Afghanistan. It was a branch of them that conquered Persia and broke down the power of the Sefveean kings; and they are still a high-minded, brave, and numerous people.

The *Hotekee* and *Tokhee* are the noblest of their clans, having produced—the first, kings; and the second, their viziers; and they are a hospitable and good people, ranking deservedly as the second of the Afghan tribes: they amount to about 100,000 families, and resemble much the Dooranees in appearance, customs, manners, and dress, though hating them, as their successful rivals, with an unquenchable hatred. They are perhaps the fairest and handsomest of all the Affghans.

There is yet another class, which, though not strictly Affghan, still, as amalgamated with that people, ought to be mentioned—the *Tajiks*. The word is used in opposition to that of *Toork*, the peaceable to the warlike; and it was applied to the subdued Persians by their Tartar masters. In Afghanistan they are supposed to be descendants of Arabs displaced by their conquerors, who now live scattered over the land which they might once have cultivated as their own. As tenants or servants, they are mild, sober, peaceable, and industrious, and live on good terms with the Affghans, who, though they regard them as inferiors,

do not treat them with contempt. They are most numerous in and around the great cities, and are all zealous sonnies. There are also the *Hazarehs* and other allied tribes, whose language is a dialect of the Persian; and the *Hindkis* and *Jats*, who speak Hindi, or rather a dialect of that tongue. There are also some Kashmires and Armenians settled at Caubul, but their number is insignificant. The *Hindkis* are very numerous and are Hindus of the military caste, transacting nearly all the business of the country. The *Jats* are a fine, athletic, handsome race, usually very dark. They are mostly very poor, and are employed as farm-servants, barbers, musicians, &c. The *Hindkis* and the *Jats* number about 600,000.

History and Political Changes.—Afghanistan having, from the remotest period of authentic record, followed the fortunes of its more powerful neighbours, or formed but the centre of a greater whole, cannot correctly lay claim to any history of its own, until after the death of Nadir Shah. For though several dynasties sprung from its soil, they never erected there a separate kingdom of any duration, unless perhaps in the instance of Subuctageen, father of the celebrated Mahmood of Ghiznee, who resided at that city before the rise of his son's power—a power which extended over great part of Asia. On the murder of Nadir, in Khorasan, Ahmed khan Abdallee, after an indecisive conflict with the Persian troops of that conqueror's army, fought his way with 3,000 Affghan horse to Kandahar, where, seizing on a convoy of treasure on its way to Nadir's camp, he assumed the ensigns of royalty; and, at the age of 23, in October 1747, was crowned as king, the Dooranee, Kuzilbash, Beloochee, and other chiefs assisting at the ceremony. Wise and prudent beyond his years, Ahmed consolidated the discordant mass of the Affghan tribes by employing them in the congenial occupations of foreign conquest and plunder; in which he was so successful, that before his death, in June 1773, after a reign of 26 years, his dominions extended from Nishapour of Khorasan to Sirhind of the Punjab, and from the Oxus to the Indian Ocean. He was succeeded by his son Timour Shah, a weak and indolent prince, who died in 1793.

Zemaun Shah, the son of Timour, who was placed on the throne by a faction headed by the queen, began his reign with a promise of energy and talent, which the event but ill redeemed; for after a seven years' reign of ill directed enterprises, domestic rebellions, and dark conspiracies, he fell a victim to the revenge of a chief whom he had provoked, and who first opposed, then seized the Shah, and delivered him to Mahmood, his half-brother and most formidable competitor, who blinded the unfortunate Zemaun.

Mahmood, however, was in his turn soon opposed by Shujah-ool-Moolk, full brother of Zemaun, who, seizing the treasure at Peshawur, proclaimed himself king. But his prosperity was short-lived. Mahmood, who had been made prisoner, escaped, and joining with Futeh Khan, the able chief of the Baurikzeehs, who had caused the ruin of Zemaun, raised a rebellion against Shujah. At this period the British mission under Mr. Elphinstone arrived at Peshawur; and before it had well quitted the country, the ill-fated Shujah was forced to fly and seek a refuge with Runjeet Sing, chief of the Sikhs, from whose persecutions he afterwards with difficulty escaped to throw himself on the protection of the British government at Loodheana. Mahmood, a king only in name, became a pageant in the hands of Futeh Khan. This minister, turning his arms westward, seized Herât, but soon after fell a victim

to treachery and the feelings of disgust which his arrogance had excited in the mind of his royal dependant, being first blinded and then put to death by order of Mahmood and his son Camrân Meerza. His numerous brothers, alarmed at this act, fled to their various governments and strongholds, exciting discontent and rebellion throughout the kingdom, until nothing of his dominions remained to Mahmood, save Herât and its immediate dependencies. Since then the affairs of Afghanistan present little save a series of civil broils, till the late Sikh chief, Runjeet Sing, stripped it of Cashmere and Peshawur, with the country between it and the Indus. It was subsequently partitioned among the chiefs of Caubul, Kandahar, and Herât. The attempt made by the English in 1839, to dethrone the first of these chieftains, on account of treachery and bad faith, led to some of the severest reverses we have met with in the East. The Bolan Pass, a long and narrow defile, leading through the mountains on the S. frontier of Afghanistan, having been passed with difficulty, the British forces advanced to Kandahar and Ghuznee. The latter was taken by storm on the 22nd July, 1839. The army soon after entered Caubul; and the chief Shah Shujah was established on the *musnud*, Dost Mahomed Khan having retreated with a few followers beyond the Oxus.

A force of about 8,000 men, partly Europeans and partly Sepoys, exclusive of native troops, having been left in the country (mostly at Caubul) to support and consolidate the newly established order of things, the rest of the British army returned to India. But no sooner had they withdrawn, than plots and conspiracies began to be formed against the English garrison. From some unexplained fatality, the latter did not become fully alive to their danger till the envoys, Sir Alexander Burnes and Sir William Macnaughten, had been assassinated, when it was too late to adopt the precautions necessary to ensure their safety. Being unable to maintain themselves in Caubul, the troops, amounting to about 5,000 men, exc. of an infinitely greater number of camp-followers, women, and children, commenced their retreat from it in January, 1842. The defiles through which they had to pass being of the most impracticable description, the cold extreme, and the attacks of the Afghans incessant, the retreat was most disastrous, and resulted in the all but total destruction of those engaged in it.

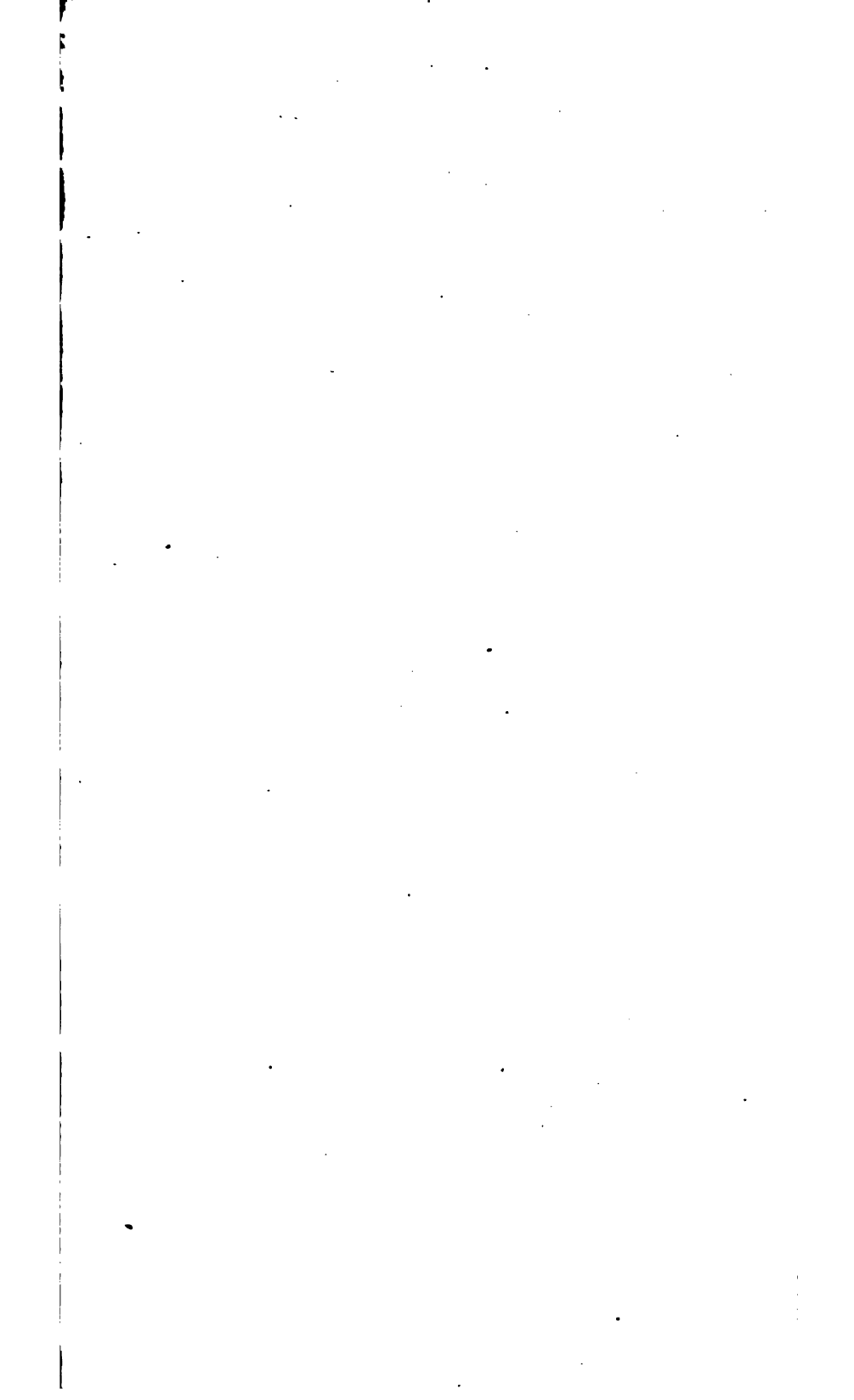
The receipt of this melancholy intelligence produced a great sensation in India and England. Government immediately resolved to march a fresh army into Afghanistan to inflict a signal and well merited punishment on its treacherous people and chiefs. This was effected in 1842. Having entered Caubul the British troops destroyed its fortifications; the prisoners and detachments that were left in the country were relieved; and our ascendancy and the *prestige* that had so long been attached to our arms were again triumphantly restored. But having wisely renounced all idea of maintaining a permanent footing in the country, we finally quitted it in December, 1842.

Dost Mahomed who had surrendered himself our prisoner was set free, and returning to Caubul regained the allegiance of his former adherents and subjects. Having fully established himself in the capital and central provinces, the outlying districts became the objects of his aspirations. In 1850 he conquered Balkh in Turkestan, and, four years after, Kandahar, which he made a province of Caubul. Herât, after the death in 1852 of Zar Mahomed Khan, by whom the defence of Herât

in 1839 had been conducted, was governed by his son and a succession of usurpers till 1856, in which year the Afghans, under the direction of Rahoudil-Khan, a Douranee chief, threatened it. The then chief of Herât, Isa Khan, a Bar-Douranee, called in the aid of the Persians, who, espousing his cause, threw an army into Herât in 1856. This being an infringement of our treaties with Persia led to a war in 1856-7, in which a small force, despatched under General Outram up the Persian Gulf, was able to bring the Persians to reason. In accordance with the terms of a new treaty, the Persians evacuated Herât in July, 1857. On their departure, the government fell into the hands of one Sultan Ahmed Khan, a Barukzye chieftain. The danger to his western frontier induced Dost Mahomed to invoke the aid of the British, and the result was a treaty concluded with him at Peshawur in January, 1857, granting him a subsidy so long as the Persian war should last, and providing that a deputation of British officers should enter the country under the protection of Dost Mahomed to watch the movements of the Persians, and aid in organising the forces of the Ameer. The mission which was sent had for political chief and head Major H. B. Lumsden, and the medical officer of the mission was assistant-surgeon W. H. Bellow, whose work we have consulted in the compilation of this article. The Indian mutiny of 1857 added to the dangers of the mission, but by great tact and prudence the danger was not only avoided, but the influence of the mission decided the Afghan government to remain faithful to the British alliance, and refrain from attacking Peshawur, an attack which in all probability would have been the signal of a rising of the Punjab, with all the disastrous consequences of such an event. Since the death of Dost Mahomed in 1863, the country has been the scene of perpetual disorders, owing to the quarrels among the sons of Dost Mahomed. One of them, Shere Allee Khan, succeeded in establishing himself in Caubul, consolidating his authority by a 'great victory' over one of his brothers in the summer of 1864. After the battle the defeated brother surrendered on the promise of good treatment, but the Ameer treacherously imprisoned him. Other brothers, however, still dispute the Ameer's authority, but the state of matters is not authentically enough known, nor of sufficient interest to demand a more extended notice.

AFIUM-KARA-HISSAR (or *Black Castle of Opium*), a city of Asiatic Turkey, in Anatolia, cap. Sanjack, 188 m. E. Smyrna, lat. $38^{\circ} 45' N.$, long. $30^{\circ} 56' E.$ It is situated on the declivity of a mountain range, and is defended by a citadel, built on a high and almost inaccessible rock. Pop. estimated by Kinnair at 12,000 families, or from 50,000 to 60,000 individuals. It is pretty well built; but the streets are exceedingly narrow, and in many parts very steep. Some of them are washed by streams that descend from the adjacent mountains. It has numerous mosques, two Armenian chapels, six khans, and five public baths; an extensive manufactory of black felts, fire-arms, short sabres or *yatagans*, with stirrups, brides, &c. But it is principally celebrated for the great quantity of opium grown in its vicinity; from which, indeed, it derives its modern name. It is said by D'Anville to be the *Apamea* of the Greeks and Romans; but the latter was situated a good deal further W. According to the Turkish annals, it was founded by Aladdin, one of the Seljukian sultans. It was the patrimony of Othman, the founder of the Turkish empire, of which it has ever since formed a part.

AFRAGOLA, a town of Southern Italy, prov.



Africa Area 12,000,000 Sq. Miles.

England & Wales Area nearly 50,000 Sq. Miles: Length 365 Miles.

Breadth 400 Miles

Wales Breadth 170 Miles

Heights of the
Principal Mountains
of
AFRICA.

Probable
Length of the
Principal Rivers
of
AFRICA.

Kenia
Feet
Higher
than
Kilimanjaro
5200

Abyssinian
Mt.
Highest P.
14,000

Mount
Cameroon
13,000

Peak of
Kenia
11,500

Mt. Kilimanjaro
11,400

Ankaramba
11,000

Clarence P.
Bernardo P.
10,600

Spitz Kop
10,000

Jebel
Lahama
9,600

Miles.
1000 - Nile

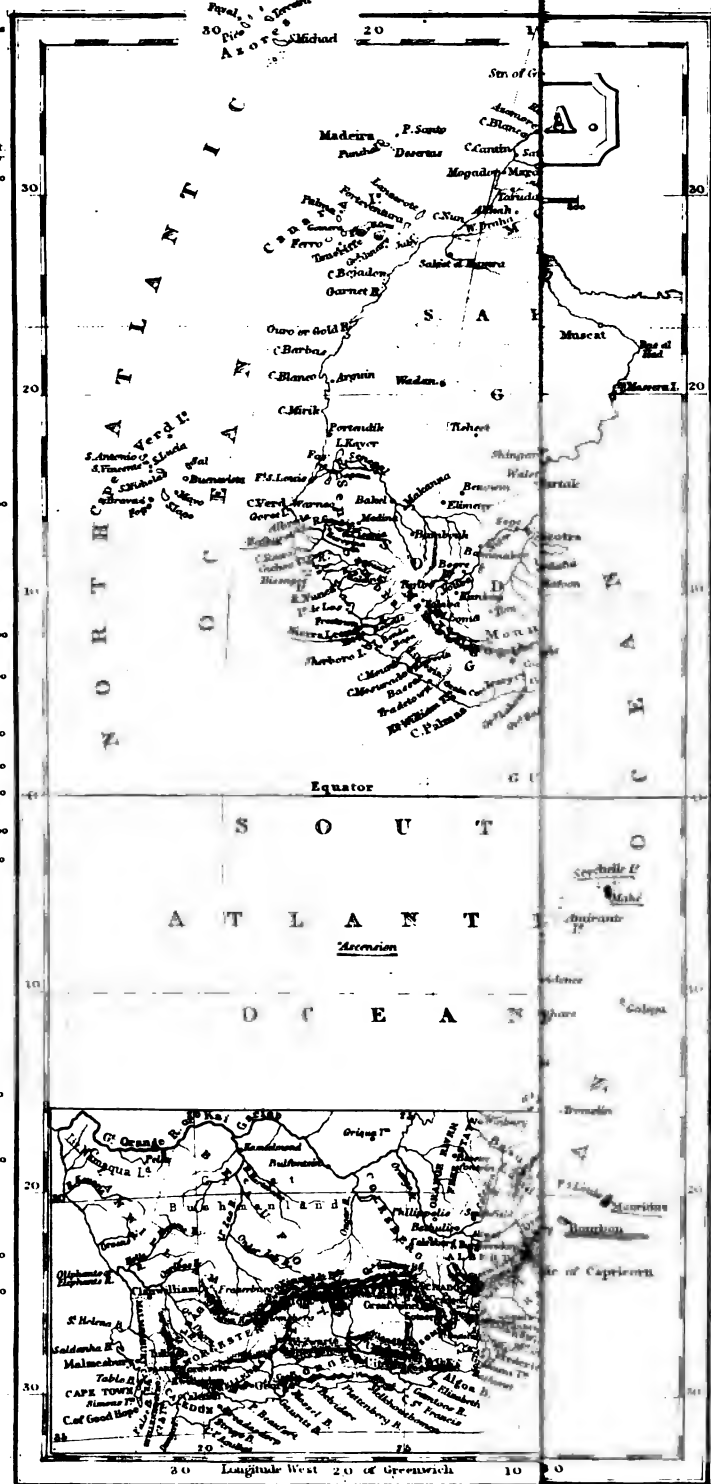
1000 - Niger

1400 - Senegal

1000 - Orange or

1000 - Zambesi

1000 - Zambesi



Naples; 5 m. NNE. Naples, on the railway from Rome to Naples. Pop. 16,717 in 1861. The town has manufactures of straw hats, and a great annual fair, which commences on the second Sunday of May.

AFRICA. A vast peninsula, one of the great divisions of the globe, situated to the S. of Europe, and to the W. and SW. of Asia. It is separated from the former by the Mediterranean Sea and the Strait of Gibraltar; the two continents approaching at the latter within about 10 m. of each other. It is separated from Asia by the Red Sea, at whose southern extremity, the strait of Bab-el-mandeb, the shores of the two continents are only 16 m. apart. But at the most northerly extremity of the Red Sea, Asia and Africa are united by the Isthmus of Suez; the Mediterranean being there about 72 m. from the Red Sea.

The most southerly point of Africa, Cape das Agulhas (Cape Needles), is in lat. $34^{\circ} 52'$ S.; and the most northerly, Cape Blanco, opposite Sicily, in lat. $37^{\circ} 21'$ N. Cape Gardafui, the most easterly point, is in long. $51^{\circ} 30'$ E., and lat. $11^{\circ} 50'$ N.; and Cape Verde, the extreme western point, is in long. $17^{\circ} 33'$ W., and $14^{\circ} 43'$ N. lat. The distance between the most southerly and most northerly points is consequently about 5000 m., and between the extreme eastern and western points not much less. The area probably falls little short, if it do not exceed, 12,000,000 sq. m.

Africa is distinguished from the other continents by its coasts extending mostly in continuous, unbroken lines, having but few indentations of the sea, and no extensive peninsulas; so that it forms a more compact and undivided mass of land. The uniformity of its outline seems to be in accordance with the uniformity of its interior. The surface of the latter does not present that endless succession of changes which are met with in Europe and southern Asia, and which are found in both Americas, but on a greater scale and at greater distances. It resembles rather the northern parts of Asia, exhibiting elevated table-lands and low plains, both of immense extent and of remarkable uniformity. The whole of the continent, from about 15° N. lat. of the equator, and S. of it to the northern border of the Ngami Water, 20° S. of the equator, constitutes, with the exception of the central depression of the Lake Region, a mass of elevated land, comprising extensive plateaus and high mountain chains and groups. North of this table-land, between 10° and 30° N. lat., extends an immense but low plain, the greater part of which is occupied by the Great Desert, or Desert of Sahara. A comparatively narrow tract of mountainous country, including Atlas and its dependencies, separates the desert from the Mediterranean. On the E. the desert does not reach the Red Sea, being separated from it by the mountains of Abyssinia and the rocky countries extending from them northward along the Red Sea to the shores of the Mediterranean.

The great central belt south of the equator 'rejects,' says Captain Burton, 'the old hypothesis of desert and plateau, and forms the sharpest contrast to our grandfathers' idea of Central Africa.' He thus describes the eastern section of it:—'Near the coast are low littoral plains and rolling ground, with lagoons, savannahs, and grassy valleys, the courses of large streams, whose banks, inundated by rain-floods, retain in the dry season meers, morasses, reedy marshes, and swamps of black infected mud. Beyond the maritime regions rise lines and mountain groups of primary and sandstone formation; ridges and highlands, often uncultivated, but

rarely sterile, with basins and hill-plains of exuberant fertility, traversed by perennial rivulets and streams. Beyond the landward slope of these African ghauts begins an elevated plateau, now level and tabular, then broken into undulations and gentle eminences, displaying by huge outcrops of granites and syenites the activity of the igneous period; where rain is deficient, thinly clad with bush, broom, and shrubbery, with thorny and succulent thickets, cut by furrows and burnt by torrid suns; and veiled where moisture abounds with tangled jungle rising from shallow valleys, with umbrageous forests broken into glades of exceeding beauty, and with interjacent plains of emerald or amber-coloured grass, from which trees of the darkest laurel-green, and knolls and clumps, large and small, against which no feller has come up, cast thick shade over their subject circlets of luxuriant underwood. Dull, dreary, and monotonous, where lying desert, in part this plateau is adorned with a lavish nature's choicest charms and varieties. Beyond it, again, the land sinks into the Lake Region, or the great Central Depression; the superabundant moisture diffused by its network of waters, fordable and unfordable, covers the land with a rank growth of gigantic grasses and timber-trees, and the excessive luxuriance of nature proves unfavourable to the development of animal organisms. Throughout the line, to judge without statistics, in the more sterile parts, about one-fifth, and in the more fruitful one-half of the land, is under cultivation; whilst almost everywhere the abundance of the desert vegetation evidences the marvellous capabilities of the almost virgin soils. The superficial conformation owns four great varieties. When low, the plains are reedy and muddy; when higher raised and well watered, they bear evergreen jungle and forest trees. In the deserts, where water lies deep beneath the earth, and rain is scarce, the plateaus produce short tufty grass, bush, and scraggy thorn, and in rare spots the land is almost bare.' Dr. Livingstone, who made a journey into the interior from Loanda on the west coast, represents the country as similar in most essential characteristics.

At the southern extremity, Africa presents to the Indian Ocean a broad line of coast, running east and west nearly along the 34th parallel from 18° to 26° E. long., or from the Cape of Good Hope to Algoa Bay. Along this coast extends an undulating country, intersected with a few elevations deserving the name of hills. Its width varies between 10 and 50 miles. North of this the table-land rises in terraces. The first terrace, called the Long Kloof, is enclosed by the double ridge of the Zwartte Berge, or Black Mountains, of which the northern, or the Grootte (Great) Zwartte Berge, rises to about 4000 ft. above the sea. North of this range is the second terrace, called the great Karroo, which is about 100 miles across and 8,000 feet elevated above the sea. It is bounded on the N. by the Nieunveld Bergen, a chain of which some summits are considered to rise to 9,000 or 10,000 feet. On its northern side the table-land seems to have attained its mean elevation, which probably is not less than from 4,000 to 5,000 feet.

At both the eastern and western extremities the two above-mentioned ranges run NW. and NE. parallel to the sea-shore, at a distance of from 30 to 200 miles; the intermediate space being likewise occupied by two or more terraces. The ranges along the west shores do not extend farther than about 29° S. lat., where they terminate in isolated hills and with a high bank on the Gareep or Orange River. N. of this river, the coast, when seen from the sea, presents only high sand-hills

without any traces of water, and is, consequently, entirely destitute of vegetation. It extends as far as Cape Negro (18° S. lat.). The interior east of the western ranges and of this coast is an elevated sandy desert, with few wells and little rain.

The eastern half of the table-land from the Cape Colony to 18° S. lat. offers a different aspect. A great number of mountain-ridges, of moderate elevation, traverse it in different directions; and at the foot of these ridges the country is well watered and fertile; though here, too, extensive sterile tracts occur, but they are not continuous. The descent from the table-land to the Indian Ocean is formed by two or three terraces, the highest edge of it about 90 or 100 miles distant from the shore. This edge, formed by a mountain ridge, prevents the rivers of the table-land from escaping to the Indian Ocean; so that they either run westward, and fall partly into the Gariep river, or are partly lost in the sands of the desert. The eastern descent of the table-land resembles that farther south, being formed by terraces. This, however, extends only to the equator, or the mouth of the river Juba; for farther north, up to Cape Gardafui, the coast itself is formed by high rocks, rising to 400 feet and upward, and no mountain ranges are visible from the sea. On the western side of the continent, between 18° and 40° S. lat., there is a considerable depression in the table-land. This country, which is known under the name of Lower Guinea, has low shores, behind which at a considerable distance the surface rises, but not to a great height. Then follows an uneven plain, watered in its lower parts by numerous rivers, among which the Zaire or Congo and the Cuanza are the largest; but towards the sources of these rivers the country is mountainous. In the plain numerous lakes of considerable extent are met with.

North of the river Zaire, at about 4° S. lat., the country again rises at no great distance from the sea to a great height. This high ground is called Serra Complide. Its W. declivity extends NW., by degrees approaching nearer the Atlantic, till it reaches the innermost corner of the Bay of Biafra, where it comes close down to the sea, and forms for more than 80 miles the shore, rising, under the name of Cameroon Mountains, to 13,000 feet above the water. These great mountain masses form the W. extremity of an extensive range, which at about 5° of N. lat. traverses the whole continent.

Dr. Livingstone found the geological structure of the earth, which he had an opportunity of examining at the river Moamba (lat. 9° 38' S., long. 20° 13' 34" E.), to consist of—first, a capping of ferruginous conglomerate, containing water-worn pebbles of all sorts; then a pale red hardened sandstone; beneath that, a trap-like whinstone; and lastly a coarse-grained sandstone, containing pebbles, and in connection with which is sometimes seen a white calcareous rock, or banks of quartz pebbles.

The true nature of the centre of this southern belt is now satisfactorily established. Sir Roderick Murchison had the honour of starting the theory, which has since been verified by the discoveries of African explorers, that, instead of the arid plain long supposed, the centre of Southern Africa is a vast, elevated, watery basin, whose waters escape to the sea by fissures and depressions in the higher lands by which it is surrounded.

Extending southward from Lake Ngami to the Orange River, and from 24° east long. to near the west coast, is the Kalahari Desert. This tract, Dr. Livingstone says, has been called a desert merely on account of the absence of running

water. It is by no means destitute of vegetation. Many plants are found there, more especially the water-melon, and there are patches of bushes and even trees. The soil is soft, light-coloured sand, and the grass grows abundantly and in tufts. The human inhabitants of this region are the Bushmen and the Bakalahari.

Still farther south, at Cape Colony, Africa presents to the Indian Ocean a broad and undulating line of coast, extending from the Cape of Good Hope to Algoa Bay.

North Africa, extending from south to north through a breadth of about 25 degrees, contains two different countries, the one fertile and the other sterile. The fertile lands are, on one side, those which lie along the Mediterranean, and on the other, the tropical lands to the south of the Sahara, called the Soudan. Of these Dr. Barth says, that they are far from exhibiting the monotony popularly ascribed to them. He describes the fertile regions of Negroland as being as varied as any part of India. He tells us 'Mountains between 5,000 and 6,000 feet are not at all rare, and most beautiful and picturesque glens and valleys are formed by them. . . . The general middle altitude of mountainous tracts is 2,500 feet.' In many parts it is well watered by rivers, which descend from the table-lands or originate in the low ridges by which the country is intersected; such districts are covered with immense forests, and are very fertile where cultivated. In other parts water is rather scarce, and some of them partake largely of the nature of the Sahara. Its climate is extremely hot, nevertheless it sometimes happens that during night the thermometer descends to the freezing point.

The Sahara, or Great Desert, is not, as was once believed, a deep sink. It is rather, to quote from Dr. Barth, 'an elevated tract of a mean elevation of from 1,000 to 1,400 feet, mostly consisting of rock—namely, sandstone or granite, the latter being overlaid in the heart of the desert by vast tracts of gravel, while the sandstone region forms many elevated plains of larger or smaller extent, strewn with small pebbles.' Several mountainous groups are found in different parts of this tract, the most important being Tibesti, A'shen or A'ir, the two mountainous regions of A'derér, and the A'taleor. These afford a dwelling-place to a considerable nomadic population; but the inhabitable localities are limited, and the ravines are very unhealthy, though some of them are amply provided with water-springs, and produce grapes and figs.

These mountains, however, are quite destitute of timber. A characteristic feature of this desert is the immense change of temperature which is found there. The greatest heat in summer alternates with a considerable degree of cold in winter, the difference between the maximum and minimum being as much as 80°. The aridity of these tracts Dr. Barth thinks greatly exaggerated, as they are occasionally refreshed by showers. Another characteristic feature of the Sahara is the *region of Sandhills*, which exist either in zones of sand-ridges, or in the shape of isolated hills. The former sometimes reach an elevation of from 800 to 1,000 feet, and have a breadth of 60 geographical miles. A great deal of moisture collects in the depressions between these ridges, and in most of them large quantities of dates are produced. All the western part of the Sahara would, owing to its burning heat and the want of water, be totally impassable, were it not that it is here and there interspersed with verdant well-watered spots or oases, which appear like islands of the blest in the midst of desolation. The ancients compared them

to the spots on a leopard's skin. (Strabo, p. 180.) These oases are mostly of very limited dimensions; but some of them are very extensive: the country of Fezzan, for example, is in fact an oasis. They are usually surrounded by higher land, which serves to account for the springs, and consequently the verdure for which they are so celebrated. But there seems to be much probability in the shrewd conjecture of Major Rennell, that the oases are indebted for no inconsiderable portion of their reputed beauty and delicious freshness to the striking contrast between them and the parched desert by which they are surrounded. (Geography of Herodotus, 8vo. ed. ii. p. 185.) Those only who have toiled for days amid a pathless burning sand, can form a proper idea of the delight experienced in falling in with one of

the tufted leles,
That verdant rise amid the Libyan wild.

In England or France they might be thought nothing of; but in the Sahara they seem more than a paradise. The famous temple of Jupiter Ammon was erected in the oasis of Siwah, in the N.E. angle of the great desert, in lat. $21^{\circ} 12' N.$, and long. $26^{\circ} 18' E.$

The *Abyssinian Mountains* constitute an extensive mountain system, whose centre is placed between 8° and $9^{\circ} N.$ lat. in the countries called Narea and Effat. The highest are the Samen range, which, with the Lamalmon and Lasta mountains, run north-east and south-east, in a long but not unbroken chain. Several of these mountains are from 12,000 to 15,000 feet in height. Between the Samen mountains and the Red Sea is the Taranta range, rising to an elevation of 7,000 feet. The most lofty of these mountain peaks are frequently, if not always, covered with snow, though some are crowned with cedar forests. The valleys are fertile and well peopled.

From the northern declivity of the Abyssinian mountains extends along the shores of the Red Sea as far as the Isthmus of Suez a rocky country, which, between 12° and $20^{\circ} N.$ lat., occupies in width an extent of between 800 and 400 m., but farther north by degrees grows narrower. Between 23° and $30^{\circ} N.$ lat. it is only from 150 to 200 miles across. Near its western border it has a deep, but comparatively narrow, depression, in which the river Nile flows N. from the Abyssinian Mountains to the Mediterranean. This long valley is mostly very fertile. The small portion of the rocky country which lies to the west of this valley, and which forms the eastern boundary of the Sahara, does not rise to a great height, rarely to more than about 1000 ft. above the valley. But the countries east of the valley of the Nile and between it and the Red Sea are more elevated. They form a table land, mostly of an uneven surface, which however in many places exhibits extensive plains, whilst in others it rises into ranges of high hills. Many of the plains are covered with sand, and resemble the eastern portion of the Sahara; other districts afford pasture ground, but very few places are fit for agriculture and cultivated.

This rocky country terminates on the banks of the Nile in the parallel of Kahira (Cairo), from the neighbourhood of which its northern boundary runs off in an ENE. and WNW. direction. The former constitutes the Isthmus of Suez, and reaches to the Mediterranean between the Lake of Menzaleh and Ras Kazaroon in Syria; farther east it joins the mountains of Arabia Petrea. This rocky country lies to the E. of the delta of the Nile. On the W. of the delta the rocks run from Kahira WNW. to the Arabs' Gulph, where they approach the Mediterranean near the Arabs' Tower ($31^{\circ} N.$

lat. and $29^{\circ} 30' E.$ long.). From this line the rocky country extends westward with a width of about 70 m. at the outset, which, however, increases as it advances farther W., so as to occupy between 200 and 300 miles at $20^{\circ} E.$ long., where it suddenly terminates. In the neighbourhood of the Egyptian delta, the rocks are hardly a hundred feet above the plain, but farther W. they rise into high hills and mountain-ridges (Gerdobah Mountains), and terminate with the high table-land of Barca, whose mean elevation above the sea is estimated to be about 1500 feet. Where the table-land of the Barca terminates with a rather abrupt descent (near 20°), a narrow strip of the Sahara comes up to the very shores of the Mediterranean, at the most southerly corner of the Gulph of Sydra or Kibbir (the Great Syrtis), where it terminates on the beach with sand-hills. This strip of the Sahara separates the rocky region of the Nile from the mountain system of the Atlas.

Mount Atlas and its dependencies, by far the most celebrated of the African chains, occupy that portion of the continent most to the north and nearest to Western Europe. It seems to begin on the E., near the eastern boundary of the country of Fezzan, whence two ridges of moderate elevation run WNW., and in the beginning are called Karush. Farther E., however, they receive other names. This mountainous country, which traverses the N. of Fezzan and the S. of Tripoli, is nowhere probably more than 120 miles in width; but the ridges of low hills which issue from it advance to the very shores of the Mediterranean, between Cape Mesurata and the Gulph of Cabes (the Lesser Syrtis), so that the whole region may be from 180 to 200 m. across. At the Gulph of Cabes, however, the region of Mount Atlas enlarges considerably towards the N., and thence to its western extremity on the shores of the Atlantic Ocean its mean breadth exceeds 350 miles. The highest ridge seems to traverse the region in an oblique line, beginning on the east opposite Sicily, at Capes Bon and Blanco, and terminating on the shores of the Atlantic at Capes Geer and Non. The mountains which occur in that line do not rise above the line of congelation. The country which extends N. of it to the shores of the Mediterranean is mountainous, and contains a number of fertile longitudinal valleys. Farther W. (about $5^{\circ} W.$ long.), however, where its northern slope is diverted W. to the Atlantic Ocean, it extends in large plains, which follow each other in the form of terraces. The tracts of country which lie to the S. of the highest ground cannot be called mountainous, their surface being formed by wide, broad-backed ridges, of very moderate elevation, and by slight depressions between them in the form of shallow valleys. These latter tracts partake of the hot and dry character which distinguishes everywhere the African continent; whilst the district situated towards the Mediterranean and the Atlantic Ocean resembles more the countries of Southern Europe. (See *ATLAS*.)

Climate.—By far the greater part of Africa lies within the torrid zone, those countries only which are situated towards its southern and northern extremities being beyond the tropics, or within the temperate zones. Owing to the vast extent of its arid plains, the temperature of Africa is decidedly higher than that of any other of the great divisions of the globe. The parts without the tropics are destitute of that regular succession of four seasons which is considered as a characteristic feature of the temperate zone. Here, as between the tropics, the year is divided into the dry and rainy seasons; but with this difference, that between the tropics the rainy season sets in when the sun

approaches the zenith, whereas it occurs in the countries beyond the tropics when the sun approaches the opposite tropic, and consequently is at the greatest distance from their zenith. But Dr. Livingstone says:—All the interior of South Africa has a distinct winter of cold, varying in intensity with the latitudes. In the central parts of the Cape colony, the cold in the winter is often severe, and the ground is covered with snow. At Kuruman snow seldom falls, but the frost is keen. There is frost even as far as the Chobe, and a partial winter in the Barotse valley, but beyond the Orange River we never have cold and damp combined. Indeed a shower of rain seldom or never falls during winter, and hence the healthiness of the Bechuana climate. From the Barotse valley northwards, it is questionable if it ever freezes; but during the prevalence of the south wind, the thermometer sinks as low as 42°, and conveys the impression of bitter cold.' Mr. Galton, travelling in South-western Africa, over the hilly country which separates the Fish River from the sea, says that the rains were periodical and very variable. From the middle of May to November rain is scarcely ever known to fall. The rainy season extends from about the first of January to the last of April; the ground is seldom saturated till February, and is quite dried up by June. Yet, notwithstanding the appearance of drought, the marks of violent torrents are visible. Captain Burton thinks the climate of Eastern Equatorial Africa superior to that of the Western coast, but of too uniform a temperature, and too deficient in cold to be healthy for Europeans.

Rivers.—The last few years have produced an entire revolution in our ideas of the water system of Africa. Instead of the 'dry and thirsty land' which books of geography were accustomed to represent the interior, recent discovery has disclosed a vast assemblage of rivers and lakes, which are not only important as subjects of geographical knowledge, but which it is hoped and believed may be made the means of developing the resources of the country, and of raising the condition of the inhabitants.

The principal river is the famous Nile, the only large navigable river on the North African coast. Assuming as its source the Victoria Nyanza of Speke, a little to the south of the equator, the Nile has a course nearly due north, extending over more than thirty degrees of latitude, and its length and depth of water entitle it to rank as one of the most considerable rivers of the globe, while of the large rivers it is by far the most famous. Till quite recent years, the Nile was reckoned the only large river of Africa, but modern exploration has added to the list the Niger, flowing into the Atlantic on the west coast, and the Zambesi, whose principal sources appear to lie quite near those of the Nile, in the great central depression of equatorial Africa above described, though it receives numerous important tributaries farther south. It is the chief river on the side of the Indian Ocean. Among other considerable rivers are the Senegal, the Gambia, the Congo, the Coanza, and Orange rivers on the west coast, to which may be added the Ogobai of M. du Chaillu. On the east coast, the most important river next to the Zambesi appears to be the Rovuma, which flows into the Indian Ocean north-east of the Zambesi, and which has lately been found useful as a convenient mode of access to the interior, where lie the sources of the Zambesi.

Lakes.—These are numerous, and often of great extent. The Lake Tangarrijika, one of the most important in the great lake region, was discovered by Captains Burton and Speke in the year 1858.

It is 1,800 ft. above the level of the sea; and has a length of about 300, and a breadth of from 30 to 40 miles. The same year, Captain Speke made a more important discovery, in the Lake Victoria Nyanza, the reservoir from which the Bahr-el-Abiad, or White Nile, descends into Egypt. This lake is between 3,000 and 4,000 feet above the level of the sea, and is at present about 150 miles in length and breadth, though Captain Speke supposes it to have been at some period of greater extent. The northern shore of the Nyanza is parallel to the equator, and its north and south direction is, from 24° S. lat. to 3° 30' N. lat. It has been ascertained that two other lakes, viz. the Baringa and the Luta Nzige, have a share in feeding the Nile: the Luta Nzige lies 120 miles north-west of the most northerly part of the Nyanza. Previous to this, Dr. Livingstone had made his discovery of Lake Ngami, 20° S. of the equator, and more recently he has explored Lake Nyassa, a lake in East Africa, which gives exit to the Shire river, and which is surrounded by a dense population. During a certain portion of the year, this lake is visited by clouds of *midges*, which fill the air to a prodigious height, and cover the waters. The natives gather these insects, and bake them into cakes. (See Letter from Mr. C. Livingstone to Sir R. Murchison, Journal of Geographical Society, 1863.) The Tchad Lake is upon the southern border of the Sahara. There are many other lakes of less moment. The Lake of Dembea, in Abyssinia, traversed by the Bahr-el-Azrek, or Eastern Nile, is also of very considerable magnitude.

Races of People.—Although we are accustomed to consider the inhabitants of Africa as being generally of the Negro race, the actual number of varieties of the human family occupying this portion of the globe is not only much greater than those found in Europe, but the differences in colour, form, and stature are much wider. There are about seven ascertainable varieties, which may be enumerated as follows, beginning with the southern extremity of the continent: viz. the Hottentot, Kaffer, Abyssinian, Egyptian, Numidian, Nubian, and Negro. We shall give a brief description of each race in this order. In the *Hottentot* the colour of the skin is a yellowish brown, and has been compared to that of a 'faded leaf.' The cheek bones are high, and much spread out in the lateral direction; and from these the face is suddenly contracted below to a very narrow and pointed chin. Nose remarkably flat and broad towards end. Colour of the eyes a deep chestnut; they are long, narrow, and removed to a great distance from each other. The hair of the head is of a singular nature; it does not cover the whole scalp, but grows in small tufts at certain distances from each other. When kept short, it has the appearance and feel of a hard shoe-brush: with this difference, that it is curled, and twisted into small round lumps about the size of a marrowfat pea. When suffered to grow, it hangs on the neck in hard twisted tassels like fringe. There is little beard; and the hair on other parts of the body is either scanty or altogether wanting. The stature of the Hottentot is very short, about four feet six inches being considered about the middle size for the men, and four feet for the women, which is about fourteen inches short of the average stature of Europeans. Their form is slender, delicate, and not ill-proportioned; but altogether they may be pronounced a very ugly race. The sex is distinguished from all others of the human race by a pendulous rugose elongation of the *nympha* of from two to five inches long, and by a vast accumulation of fat over the *glutei* muscles, which invariably takes

place after the first conception. Both these appearances are well ascertained to be natural, and in no way the result of art. The language of the Hottentots is as singular as their persons. Its pronunciation has been compared to the clucking of a turkey. There are numerous guttural sounds produced deep in the throat, and pronounced with a peculiar clack of the tongue, which is quickly struck against and withdrawn from the teeth or palate. The aspirated gutturals are combined with harsh consonants in a manner unpronounceable by Europeans, except those who have acquired the language in infancy. No portion of this race, unconnected with Europeans, has advanced beyond the rudest stage of the pastoral state of society. When discovered, they had domesticated the ox and the sheep, the flesh and milk of which afforded them food, and their skins, with those of wild animals, clothing; they knew nothing of tillage, had no fixed dwellings, and practised no mechanical art excepting that of fabricating the bow and arrow. The ancient country of the Hottentot variety may generally be described as that which now constitutes the British colony of the Cape of Good Hope.

The immediate neighbours of the Hottentots, and lying N. and N.E. of them, are the *Caffres*, in all respects a different race. The colour of the Kaffer is neither black, like that of the Negro, nor of the colour of a faded leaf, like that of the Hottentot, but of a deep brown. Hair short, curling, and woolly; but it is not of the wooliness of the Negro. Nose tolerably elevated; lips large and thick; but the lower maxillary bone does not project in the remarkable manner of the Negro, and consequently the facial angle is much greater. The body, instead of being, as in the Hottentot, diminutive and feeble, is muscular and athletic, and the stature is equal to that of the European race. The peculiarities of the female form in their southern neighbours have no existence among them, and the genius of their language is distinct and peculiar. In the useful arts they have made considerable progress. Besides domesticating the ox and sheep, they have also tamed the horse and goat; and their agriculture extends to the cultivation of barley and millet. It is a singular and distinctive trait that they practise universally the rite of circumcision. Of the origin of the practice they can give no account; and it has most probably been derived from intercourse, at some remote period, with some people by whom it was practised.

The *Abyssinian* race is entirely different from those previously mentioned. Their colour is nearly black; but the hair is long, and generally lank, like that of an Arab or Hindoo. Features regular, after the European model, and the nose often aquiline. The stature equals that of the European; and the whole person is generally well formed, and occasionally handsome. The nations comprehended under this race have made considerable progress in the useful arts. They have domesticated most of the useful animals, as the ox, sheep, horse, ass, and camel; and cultivate most of the common corns, as wheat, barley, and millet. They also work, with some skill, articles of iron, copper, and brass; and except the ancient Egyptians, and probably the Numidians, are the only native race of the entire continent who have invented an alphabet or possessed a literature.

The *Egyptian* race is represented by the Copts of Egypt. These have long hair, a yellowish dusky complexion, neither Grecian nor Arabian, a puffed visage, swollen eyes, flat noses, and thick lips; and, in short, according to Volney, much resemble Mulattoes, or the mixed offspring of the

European and Negro. It is almost unnecessary to add, that this was one of the earliest civilised races of mankind; and that at least thirty ages ago it had already tamed the useful animals, cultivated the most valuable plants, smelted the useful and precious metals, and erected architectural monuments which for their durability, extent, and grandeur, still astonish the world. They were also among the first to invent hieroglyphic and alphabetic writing.

The next race to be named is the *Numidian*. The people who inhabit the northern portion of Africa from about the 18° of N. latitude to the Mediterranean, and known by the various names of Moors, Berbers, Tuanghis, and Tibbans, are, in some cases with an admixture of Arab blood, probably the aboriginal inhabitants of the country before the settlement of the Phenicians, Romans, Vandals, or Arabs; that is, they are the descendants of the Lybians, Numidians, Mauritanians, and kindred tribes. With this race the hair is long and black; eyes dark; the colour of the skin a light brown, little deeper than that of the inhabitants of Spain; the features are European, but the nose generally not very prominent, and never aquiline, as is often the case with the Arabian. Although apparently superior at all times in civilisation to any Negro nation, this race appears at no period to have made any remarkable progress in arts or arms, and scarcely any in letters; for it has been ascertained only of late years, rather as a matter of curiosity than anything else, that they once possessed the art of alphabetic writing. Their language, indeed, is but the jargon of a rude people, destitute of terms to express the most common distinct ideas, such as *shortness, roundness, cloth, and death*. Such ideas are either expressed by circumlocutions, or in more difficult circumstances recourse is had to the Arabic language. Their inferiority is indeed most decidedly implied by the facility with which they have given way before every successive race of conquerors, during a period of at least 2,500 years.

The next race to be described may be called the *Nubian*; and, with the exception of the Abyssinians, will comprehend nearly all the people of Africa from about 8° of N. latitude to the southern confines of Egypt, and from the Red Sea and Indian Ocean on the east to about the 25° of E. longitude westward. In this race are included the people called Barabra or Nuba, the people of Sennar, the Sumuli, the Suaking, the Bishari, the Abab-dah, the Galla, and others. A long oval countenance; a curved nose, somewhat rounded towards the top; rather thick lips, but not protruding excessively, like those of the Negro; a retreating chin; scanty beard; lively dark eyes; strongly frizzled, but never woolly hair; and a finely formed person of the middle size, with a bronze complexion, are the physical characteristics of this race. Some of the nations of this race have made considerable progress in the common arts of life, but they have no indigenous literature.

With the exceptions now mentioned, the rest of the African continent may be said to be peopled by the *Negro* race, which commences at the southern boundary of the great desert, and, embracing both the western and eastern coast, with the island of Madagascar, extends to about 20° of S. latitude.

The following are the leading characteristics of this well-known variety of our species:—Skin and eyes black; hair black and woolly; skull compressed laterally, and elongated towards the front; forehead low, narrow, and slanting; cheek bones prominent; jaws narrow and projecting; upper front teeth oblique; chin receding; eyes prominent; nose broad, thick, flat, and confused with

the extended jaw; lips, particularly the upper one, very thick; palms of the hand and soles of the feet flat; tibia and fibula convex; pelvis narrow; knees turned in, toes turned out. The stature and physical strength are equal to that of the European. Many of the Negro tribes have made considerable progress in the necessary and useful arts, a progress which, it may be safely affirmed, greatly surpasses that made by any native race of America. They cultivate useful grains, roots, and fruits; have appropriated the services of many of the domestic animals, such as the ox, horse, ass, camel, goat, sheep, and hog, all of which appear to be indigenous. It is singular, however, that no Negro tribe, nor even any native African race, has ever had the ingenuity to tame and train the elephant, a service to civilisation which has been performed by almost every Asiatic nation to whose country this animal is indigenous, and which there is abundant evidence to show was done by the Carthaginian and Roman settlers in Africa.

It is a still more striking fact that no Negro, and indeed no African nation, save the Egyptians, Abyssinians, and partially the Numidians, ever possessed a literature, or had ingenuity to invent any alphabet, however rude.

The general character thus sketched belongs with more or less intensity to the whole Negro race within the limits we have assigned to it; but it is not at the same time to be forgotten that there is much variety—a greater perhaps than exists among the European or any other family. The *Berbers* form the chief part of the population of Barbary, and, according to Dr. Barth, 'are of immense importance in the whole question of African and Asiatic ethnography, as a link between various and most distinct races.' He estimates them in Barbary, though existing under different names, and speaking dialects greatly mixed with Arabic, at between 7,000,000 and 8,000,000. The *Mandingos* are a numerous people, occupying the mountainous country on the west side of the continent which lies towards the sources of the rivers Senegal and Gambia. They possess the true Negro features, but not in an exaggerated form. The colour is black, with a mixture of yellow; the person strong, symmetrical, and above the middle stature. Of all the Negro races the Mandingos have exhibited the greatest aptitude for improvement. They are industrious, enterprising, and, compared with their neighbours, of an open and generous character. They have adopted the Mohammedan religion, and with it the letters and literature of Arabia. The *Foulahs*, or *Fulbe*, inhabit the same portion of Africa. The colour of the skin with this race is a sort of reddish black. Their countenances are regular, and their hair longer and not so woolly as that of the ordinary Negro. They are robust, courageous, industrious and enterprising, and like the Mandingos have adopted the literature and religion of Arabia. They lack the industry of the Mandingos, and manifest a want of political organisation, being, from their origin, disposed to a nomadic existence. They are intermixed with several other tribes, so that great diversity of type and colour prevails amongst them. They are of great importance as regards communication along the Niger. Altogether they make a considerable approach to the family which we have before described under the name of the *Nubian*. The *Suhmias* are a squat robust Negro race, not exceeding 5 feet 8 inches high. They are remarkable for their courage and hardihood, and have made considerable progress in the common arts of life, but have not adopted Mohammedanism or the Arabic letters. The *Jolofs* inhabit both the maritime and mountain country on the south banks of

the Senegal, and are, in fact, the first Negro nation we encounter on the western side of the continent after quitting the Berbers. Their complexion is a fine transparent deep black. With the exception of thick lips and a nose much rounded at the end, their features make some approach to the European. The hair is crisp and woolly, the stature tall, and the figure good. To the south of the Gambia, and extending to Cape Palmas, we find the race called *Feloups*, of a deep black colour; with longish woolly hair; features so regular as to be thought to bear some resemblance to the Hindoo; and of slight and short stature, but much agility. These are nearly in a savage state. To the south of the Feloups are the *Papals*, a race of very ugly Negroes, of dull, gross, and ferocious aspect, with very flat noses, and of a dirty livid colour. These and some other races resembling them are followed in proceeding southward by the *Bullom*, &c., of a fine black colour, of good features, and well made, with persons above the mean stature. The *Tebu*, or *Tedé*, occupy the eastern half of the desert, corresponding in position to the Berbers on the western side. The *Haúsa* form an intermediate race between the Berbers and Negroes: near neighbours to these are the *Kanari* or *Bornú*. On both sides of the Niger are settled the *Yoruba-Núfé* nations, industrious and commercial people. Farther to the east are the *Logón* or *Laggone*, the *Bagirma*, and the *Wadai*. The Bagirma are a fine race, but cruel. Wadai is a powerful kingdom, with a population of about 5,000,000. Proceeding southward, and more to the Gold coast and the country lying inland from it, we find the *Intor*, *Fantee*, and *Ashantee* nations, which appear to constitute another distinct variety of the Negro race. It is of the mean stature, and well proportioned. The face is of an oval form; the eyebrows lofty and thick; the lips fresh, red, and not hanging down as in the extreme forms of the Negro; and the nose not so flat. The hair is rather curled than woolly, and occasionally so long as to reach to the shoulders. The Ashantee belong to 'a larger group of people,' says Dr. Barth, 'constituting the O'chi race.' Now and then are to be seen examples rather Asiatic than African. No nation of this variety has ever possessed the art of writing, either springing up among themselves or borrowed from strangers; and, although they have all made considerable progress in several of the common arts of life, they are in the habitual perpetration of cruel and ferocious rites, not to be paralleled by any other race of mankind. From the Bight of Biafra down to 20° S. latitude, where we encounter the *Kaffers*, there is comparatively little variation from our general description of the Negro family. Dr. Livingstone tells us that the amount of population in the central parts of Africa is to be called large, only in comparison with Cape colony, or the Bechuana country, which extends from the Orange River to 18° south latitude. He says of these tribes, 'The people who inhabit the central region are not all quite black in colour. Many incline to that of bronze, and others are as light in hue as the Bushmen.' Amongst the south-western tribes are the *Ovanepo*, a corn-growing, honest, and well-ordered people, who, considered as blacks, are highly civilised; the *Demaras*, a handsome, sprightly, but worthless race; and the *Ghou Danup*, a very peculiar race of Negroes. In the interior of Africa, lying between the Mountains of the Moon, which cross, or are supposed to cross, the entire continent in about 10° of N. latitude, and the great desert, we have, as far as our very imperfect information extends, little variety from the common type of the Negro. This is the country which the Arabs call *Soudan*; a word

which means the country of 'black men,' and is exactly equivalent to the Persian word Hindostan. On the east coast of Africa, between the *Caffre* and *Nubian* races, we have nothing but true Negroes. It is, however, to be observed of these, that although the woolly head, black skin, flat nose, thick lips, and projecting jaws are never absent, their excess which is found in general on the western coast does not exist. Captain Burton says, that the aspect of the great mass of this Negroid race is not unimpressing. They are tall and well-made Mulattos, but a handsome man is never seen except amongst the chiefs. The osteological structure of the head is not so heavy as in the pure Negro. The hair of these races is stiff, short, crisp, and curling. Under the same denomination, though shorter and feebler, is to be included the inhabitants of the great island of Madagascar; who, because their language contains probably about 100 or 150 words of Malayan, are absurdly supposed by some writers to be of the Malayan race, which they no more resemble than they do Europeans. The introduction of such terms has, in fact, been satisfactorily accounted for by the drifting of boats with crews of Malays from the shore of the island of Sumatra, two or three authentic examples of which have occurred within our own times. The fact of such occurrences having taken place is a sufficient answer to the apparent difficulty of open boats with their crews performing a voyage which cannot be less than 8,000 nautical miles. The manner in which such events would take place is, we think, obvious enough. A trading or fishing-boat, with a few coconuts, affording meat and drink to the crews, and known to be a constant sea-stock in such cases, driven from the coast of Sumatra in the height of the NE. monsoon, would in due course be carried into the SE. trade wind, and going with a flowing sheet before the wind (the only course she could pursue), would be carried to the shore of Madagascar in a shorter time and with more safety than might at first be imagined.

Such is a brief and necessarily imperfect account of the races of men inhabiting Africa. The subject is indeed full of difficulty; not only from its extent, variety, and complexity, but also from the imperfect information, and indeed in most cases the entire ignorance, which exists regarding it. The number of different nations, and even of distinct languages, is proportional to the barbarism of the people; and there is no quarter of the globe, America excepted, in which the number of both is so great.

There are no accurate means by which to form an estimate of the population of Africa, the calculations varying between 60,000,000 and 100,000,000. Probably the mean of these, namely 80 millions, accepted by Ritter and other eminent geographers, will be nearest the truth.

Animals of Africa.—These, at its northern extremity, where it approaches Europe, and at its eastern, where it approaches, or rather joins, Asia, are generally the same as those of these two portions of the globe; but throughout its greater part they are not only different from the European and African species, but equally also from the animals of the two portions of America, and from those of the Oceanic continent and islands. We shall confine our observations chiefly to those more immediately subservient to the uses of man.

Of 1,270 known species of terrestrial *Mammalia* there have been discovered in Africa, although more imperfectly explored than any other portion of the globe, no fewer than 290, of which 242 are peculiar to this continent. Of the *Quadrumanæ*, comprehending apes, monkeys, and lemurs,

there are 55 species, of which 48 are peculiar to it; not one of them being identical with the species found in Asia or America. One of the most remarkable of the whole tribe is the *Simia troglodytes*, or chimpanzee, which, after a careful anatomical comparison with the *orang utan* of Borneo, is now considered to make in physical formation a nearer approach to man than the latter, while it is unquestionably more lively and intelligent. Another curious specimen of the *Troglodytes* is the *nahiego-mbormé*, or nest-making ape, of which M. Du Chaillu gives an account in his travels, and which constructs for itself a house of leafy branches in lonely forest trees, always choosing a tree which stands a little apart from others. The *Kooloo-kaniha* is another species of African ape. But the most wonderful of all this great family is the *Gorilla*. M. Du Chaillu thus describes a meeting with one of these monsters:—'He stood about a dozen yards from us, and was a sight I think I shall never forget. Nearly six feet high (he proved four inches shorter), with immense body, huge chest, and great muscular arms, with fiercely-glaring large deep gray eyes, and a hellish expression of face, which seemed to me like some nightmare vision: thus stood before us this king of the African forest. He was not afraid of us. He stood there, and beat his breast with his huge fists till it resounded like an immense bass drum, which is their mode of offering defiance, meantime giving vent to roar after roar.' Of the *Cheiroptera*, or bats, there are 80 species in Africa, 4 of which only are common to it with Europe and Asia. The carnivorous animals of Africa are 66 in number, of which 14 only are found in other parts of the world. The most remarkable of these is the lion, which is known historically to have once existed in the east of Europe and west of Asia. With the exception of an inferior variety found in some parts of northern Hindostan, this animal, so renowned in the fable, poetry, painting, and sculpture of almost every nation of the old world, from China to Spain, is now confined to Africa (*Leonum arida nutrix*); which it ranges from its N. to its S. extremity. Panthers, leopards, and many small species of the feline race also exist; and the cat has been domesticated, though it be much more rarely found in this state than in Europe, Asia, or even America.

Of the Canine family, Africa contains the dog, wolf, fox, jackal, and hyena. The dog has not been found there in the wild state, but many varieties exist in a semi-domesticated condition, living in troops in the towns and villages, as it does in almost all the countries of Asia. The Africans have never, that we are aware of, used it for food or labour, or even for the chase. Jackals and foxes are numerous. Africa may be considered the peculiar country of the hyena; for of four existing species one only, belonging to Hindostan, is found out of its limits. Of the *Fiverra*, or civets, several species exist in Africa; among which is the true civet cat, domesticated by the natives to produce civet; and a species of the Mongoos, viz. the celebrated *Ichneumon*, or rat of Pharaoh. Of bears, which either still exist, or are known to have existed, in almost every country of Europe, Asia, and America, no example has yet been found in Africa.

The Marsupial order of animals, or that of which the females have a double womb, is wholly wanting in Africa, as it is in Europe and continental Asia. Of the Rodent *Mammalia*, or gnawers, Africa yields many species of rats, squirrels, and four or five species of hare; while the rabbit is thought to have been originally

brought to Europe through Spain from the African coast of the Mediterranean. The *Pachydermata*, or *thick-skinned* order, is very abundant; more so indeed than in any other part of the world. We find among these the horse, ass, zebra, dromedary, and quagga; the elephant, rhinoceros, hippopotamus, common hog, and lingallo or African boar. Although the horse cannot be asserted to be a native of Africa, not being found in the wild state, it has been domesticated there from the earliest ages of history. The Numidians had their cavalry when the Romans first became acquainted with them; and the horse does not appear to have been a stranger even to the ancient Egyptians; though among the mummies of quadrupeds found in the catacombs that of this animal does not appear. The most improved of the negro tribes possess the horse, and have often a numerous cavalry; but, like Asiatics, generally, the Africans do not apply the horse to draught or burthen, and confine its use to war or pleasure. When the Arabs conquered Egypt and northern Africa, they introduced their own breed, which, mixed in some degree with the native one, constitutes the barb and Egyptian horse—little inferior to the pure Arabian blood itself. The Dutch and English introduced into the colony, at the southern extremity of the continent, their respective national breeds; and the soil and climate of Africa being found generally congenial to the constitution of the horse, it has thriven and multiplied there as scarcely anywhere else.

The ass is most probably not a native of Africa, or we should still, in a country so little occupied by man, find it in its wild state, as we do in so many countries of Asia. It has, however, been introduced into Egypt and Barbary,—possibly by the Arabs,—and thrives extremely well in both. The zebra, the dromedary, and the quagga, quadrupeds peculiar to Africa, and beautiful, at least as to colour, are found in troops all over its arid plains and deserts. But from a natural indolence or waywardness of temper, or from the unskilfulness of the African people,—probably, indeed, from both causes,—and the possession of the horse and ass, they have never been tamed and applied to economical uses.

Ruminating animals are not less abundant than the *Pachydermata*. Of the 157 species of those which are ascertained to exist, 78 are found in Africa; and, with the exception of 10, all of them are peculiar to it. The dromedary, or single-humped camel, is now abundant in all the dry parts of Africa, and is the principal beast of burthen. In the earliest portion of scriptural history it is mentioned as being employed in carrying on the trade between Syria, Arabia, and Egypt, and therefore it is fairly concluded that it was well known to the ancient Egyptians. It is also found sculptured on some of the earliest Egyptian architectural monuments. Egypt, however, from position, physical character, and civilisation, was always more an Asiatic than an African country; and from the fact of the camel's existing there, its general diffusion over the country cannot be inferred. It does not appear to have been known in the portion of Africa lying along the coast of the Mediterranean during its possession by the Romans; and it seems not improbable, therefore, as some have conjectured, that its general diffusion over the continent was the work of the Arabs, after their adoption of the Mohammedan religion in the 7th century. The *Giraffe*, known to the Romans, and used in their games, is exclusively an inhabitant of the dry parts of Africa. Notwithstanding its size, strength,

and gentleness, it has never been applied, in its domesticated state, to any useful purpose of man; and from its eccentric and awkward form of movement, is probably unfit for any.

Horned cattle, or oxen, of many varieties, are general among all the more civilised tribes of Africa; and in Egypt the existence of the ox is coeval with the earliest records of the country. Mummies of this animal have been found in the catacombs, supposed to be not less than three thousand years old. Whether the original stock was imported or was indigenous, cannot be ascertained; but most probably the latter, for the common ox in the wild state is not known to exist in any part of this continent as it does in many parts of Asia and its islands, and as it is known once to have done in Europe. The buffalo (*Bos bubalus*) has been naturalised in Egypt since the middle ages, having been introduced from India through the conquests of the Arabs. One species of the ox family only is ascertained to be indigenous to Africa, and is peculiar to its southern extremity. This is the buffalo of the Cape, or *Bos Caffer*; an animal of great size and ferocity, which has never been tamed, and is probably untamable.

Sheep and goats exist throughout all the drier parts of the continent; but neither are found in the wild state, and have probably been introduced. The prevalent variety of the first is that with the fat tail, of from 10 to 80 pounds weight, the same which is so general in Persia, Arabia, and Tartary; and which, though long looked upon as a rarity and a monstrosity, is probably as extensively diffused over the globe as the variety more familiar to us. The wool and flesh of the fat-tailed sheep are greatly inferior to those of our own breed; but the flesh of the lamb is thought to be superior. There are said to be but two species of deer—one of which is the common fallow deer—existing in this continent, and these are confined to the countries bordering the Mediterranean. This is compensated by the existence of not less than 60 species of antelope, all peculiar to it; a number far exceeding that of the genus found in every other part of the world. Some of the species, as the gazelle, do not exceed a foot and a half high, and are remarkable for the beauty and gracefulness of their form. Others are equal in size to a large ass or zebra; as the gnu, which has the body, tail, and paces of a horse. The most numerous species is perhaps the springbok; which, in the wide plains of southern Africa, is said to be found in herds of 10,000, or even 50,000. Not one of the whole family has ever been domesticated for the purposes of food or labour by the natives, as the rein and fallow deer have been in Europe.

The elephant is found in all the wooded and low parts of Africa, from the northern limits of the great desert to the southern cape; and generally in greater numbers than any where else in the world, if we except Ceylon and the countries lying between Hindostan and China. The African elephant differs, specifically, from the Asiatic. The crown of the tooth is marked by a lozenge instead of ribbon stripes; the hind foot has three toes instead of four; the forehead is convex instead of concave, and the ears are longer. In point of size, general form, sagacity, and docility, there is probably no great difference. No native African people, that we are aware of, ever tamed the elephant. When an African is told that this is done in the East, he is as incredulous as a European would be if an African told him that his countrymen tamed the hippopotamus, and used it as a beast of burden. The only hint we

have seen that such a thing may be, is given by Mr. Campbell, the African traveller, who informs us that he was told by a people of the interior whom he encountered, that another people more advanced in civilisation than themselves, the Malahaleys, 'wear clothes, ride on elephants, climb into their houses, and are gods.' That the elephants used by the Carthaginians were of the African species there cannot, we think, be the least question. One of the conditions of the treaty forced upon them by the Romans after the battle of Zama implies this clearly enough. They were to surrender all the elephants which they had tamed, and to tame no more for the future. Livy's account is:—'*Perfugas, fugitivosque, et captivos omnes redderent Romanis, et naves rostratas, præter decem triremes traderent, elephantosque, quos haberent domitos; neque domarent abos.*'—(Livy, lib. xxx. c. 37.) The elephants of Pyrrhus were, no doubt, Asiatic, and received through the Macedonian conquests. His invasion of Italy was but 47 years after the Indian invasion of Alexander; and therefore, considering the long age of the elephant, the very individual animals in the army of Pyrrhus may have been the same which Alexander brought from the banks of the Indus. The Carthaginians being of an Asiatic, and not an African stock, form no exception to our previous remark. The Egyptians, the only people of Africa from whose ingenuity we might have looked for the domestication of the elephant, had none to tame; nor was their highly cultivated country well suited for their use, if they had. As a contrast to the Africans, it may be observed, that there is no people of Asia whose country produces the elephant by whom it has not been domesticated and used as a beast of burden, from the Hindoos, the most civilised, to the Malays, the least so. The Africans consider the elephant only as a beast of chase, and hunt it for its ivory, its flesh, and its hide; and the herds are so numerous, and the population so scanty, that the supply, according to present circumstances, appears for all practical purposes inexhaustible.

The two-horned rhinoceros, of a different species from the two-horned rhinoceros of Sumatra, inhabits the same localities as the elephant, and is hunted with the same avidity by the natives for its tough and thick hide and its horns. Traces for harness, but above all shields, are made of the former, which are in repute throughout all eastern countries; and the latter are used for their supposed medical virtues, and are a regular object of traffic. It may be observed of this species of rhinoceros, as well as of the two which belong to India and its islands, that their docility and capacity for domestication are not inferior to those of the elephant itself. The slow and sluggish movements of this animal make it, notwithstanding these qualities and its great strength, an unsuitable beast of burthen, especially in countries where the elephant, the ox, the buffalo, and the horse exist; and, consequently, it has never been applied to such a purpose.

The hippopotamus is exclusively a native of Africa, inhabiting the rivers and fresh-water lakes of the whole continent, from the southern confines of the Sahara nearly to the extreme cape. It was well known to the Greeks and Romans as an inhabitant of the Nile; from which, however, it has now disappeared everywhere below the third cataract. In the rivers and lakes of tropical Africa it still exists in undiminished numbers, being from its locality difficult to come at by the hunter.

The common hog, in the wild state, is said to be found at the two extremities of the continent, where it approaches Europe and Asia, viz. Bar-

bary and Egypt; but there is no evidence of the existence, anywhere else in Africa, of this animal, which was at one time general throughout Europe, and is still general throughout Asia and its large islands. Its place seems to be taken by the lingalo, or masked boar. This animal, which has teeth of a formation and growth resembling those of the elephant, and a large pendulous protuberance supported by a bony process on each cheek, giving it a hideous appearance, is not only found on the continent, but in Madagascar and the Canary Islands. It has never been domesticated, but the common hog has to a limited extent.

The native Ornithology of Africa does not present the same number of subjects subservient to man as that of Asia, or even of America. The common fowl, goose, and duck are all of them probably strangers, and there is no doubt that this is the case with at least the first. They are bred by the native inhabitants, but only to a very limited extent. The only bird which Africa has contributed to the poultry-yard is the Guinea hen: of this genus there are four or five species found abundantly on the western coast and its islands. The bird, as its Latin name, *Nesuda*, implies, was known to the Romans, and bred by them. Most probably they received it domesticated from the Carthaginians. It is very remarkable that it is now wholly unknown to any African people in the domestic state, except as imported by European colonists—a singular proof of apathy and dullness in the whole race. This bird seems to supply, in Africa, the place of the common fowl of Europe, the peacocks and pheasants of Asia, and the turkeys and electors of America. The ostrich, which once extended to the nearest parts of Asia, is now confined to Africa; and the Arabs are said to have introduced the practice of breeding them in the domestic state, in order to obtain their feathers in greater perfection. Of our summer birds of passage many pass their winters in Africa; as the cuckoo and nightingale, some swallows, and the common quail and land-rail. The cheerful and active period of their lives, therefore, is passed among us, and the note of the cuckoo and song of the nightingale are wholly unknown to the people of Africa. The woods of tropical Africa abound with birds of the parrot family, from those which are no bigger than a lark to some which are equal in size to a large falcon. As in South America, the Indian Islands, and Australia, they are remarkable for the variety and brilliancy of their plumage, their dissonant and incessant notes, and their utter inutility to man. Proportional to the number of graminivorous and frugivorous birds, and of wild mammals and reptiles, is that of eagles, hawks, vultures, and other birds of prey.

Among reptiles are to be found a great variety of the lizard family, from the chameleon up to the crocodile; and of snakes (a few poisonous, but the greater number harmless), some species not exceeding a few inches long, up to the python, which measures 80 feet in length. All the species of this class differ from those of Asia and America, not to say of Europe, or the Indian Islands, or Australia. Africa, of course, abounds in the insect tribe. Of these the bee alone is directly useful to man, but has never been domesticated by the Africans. Africa yields no useful insect, such as the kermes of Europe and Western Asia, the lac of Eastern Asia, or the cochineal of South America.

Plants of Africa.—In reference to its Flora, Africa may be divided into three districts, namely, the Atlantic, the Equinoctial, and the Austral region. A fourth may be added in the principal islands on its western and eastern sides, viz. the

Canaries and Madagascar, with the Mauritius and Bourbon. The plants of the Mediterranean coast differ little or nothing from those of the opposite shore of Andalusia. Wheat, barley, maize, rice, the grape, the fig, olive, and date, as well as the cotton plant, thrive here in perfection. It is not until we reach as far south as Egypt, that the Flora assumes a character intermediate, as it were, between European and Tropical; and here, to the plants already enumerated, may be added the sugar-cane, cotton, indigo, and coffee. In Upper Egypt, Nubia, and Abyssinia, we have a somewhat peculiar vegetation; and here we find the *acacias*, which produce gum-arabic, and the *cassias*, which yield the medicinal senna. In Abyssinia first appears the Scitamineous family of plants, the same which in the East yields ginger, turmeric, and cardamoms. The coffee plant still grows wild in the same region, which is indeed supposed to be its native country.

In the equinoctial part of Africa a totally new vegetation presents itself, entirely differing from that of Europe, and almost equally so from those of tropical Asia and America. One conspicuous forest tree of great size, however, the *Bombax pentandrum* is common to the three continents. Another forest tree of vast magnitude, the Baobab, or *Adansonia*, is supposed to afford examples of the oldest living organized matter on our globe; some specimens, by counting the number of their concentric circles, being estimated at near 6,000 years old. The African oak, or teak, which, however, is probably neither the one nor the other, though its botanical place has not been as yet ascertained, is an inhabitant of the same region. The bamboo, so common and so useful in Asia and America, is unknown to Africa. Whole plains in this quarter are occasionally overspread with the papyrus plant, to the exclusion of every other. Peculiar palms of course abound; among which, however, the date is no longer found. The most useful of these is that which yields the oil of commerce, the *Elais Guineensis*. Whether from the barbarism of the natives, or the uncongeniality of the soil and climate, corns are little grown, and their place is taken by hardy farinaceous roots, pulses, &c.; as the *Dioscoria* or yam, the *Arachis* or ground nut, and the pigeon pea or *Cytisus cajan*. The fruits of tropical Africa, in comparison with those of Europe, Asia, the Asiatic islands, or America, are few in number and of indifferent quality. The most remarkable are the nitta or donna (*Parkia Africana*), a species of custard apple (*Anona Senegalensis*), the safu, the cream fruit, the negro peach (*Janocephalus laurina*), the monkey apple, pigeon plums (*Chrysobalanus*), the Rammees apple (*Mammea Africana*), and the star apple (*Chrysophyllum*). The pine apple, a native of America, grows luxuriantly in the forests, as if it were indigenous.

As we approach the southern extremity of the continent, a new form of vegetation presents itself, differing essentially from that of every other part of the world, but bearing the nearest analogy to that of Australia. Its character is suited to the arid nature of the soil and climate; and the prevailing genera are euphorbias, aloes, crassulæ, and heaths, of endless species, and often of great beauty; plants generally with fleshy leaves, and slender roots, which are nourished more by dew than by the moisture of the earth. The grasses are generally coarse, and forest trees are only found in the moister parts near the banks of rivers.

In the Canary Islands the species are for the most part European, but their growth and luxuriance is tropical. The great island of Madagascar has on its western side plants common to Africa, and on its eastern some that are common to the

Indian archipelago. But generally both here and in Bourbon and the Mauritius, the Flora is peculiar and local.

Religion.—Fetichism, or the worship of natural objects, animate or inanimate, is, in its most degrading and offensive form, the religion of the greater number of the inhabitants of Africa, being professed by almost all the Negroes, and by nearly all the natives of Madagascar. They appear generally to admit a good and an evil principle, have their lucky and unlucky days; and their priests claim the power of preserving men and animals from the influence of evil spirits. Several of these nations have a national and supreme *fétiche*: the people called Ouidah or Widah, for instance, worship the serpent, an order of priests and priestesses being set apart to minister to this reptile. The Bissagos worship the cock; and the tribes on the Bight of Benin, who regard their own shadow as a *fétiche*, have a lizard for their principal divinity. Other tribes worship alligators, hyenas, leopards, &c.; and in some instances immolate to them human victims. The Agows, who reside near the sources of the Nile in Abyssinia, have, with less absurdity than most others, from time immemorial, offered sacrifices to the genius of that river. The narrative of the Moor Sydy Hamed represents the inhabitants of Wasenah and some tribes of Nubia, and of other countries in the region of the Nile and the interior of Africa, as worshippers of the moon; and those contiguous to Cape Mesurado in Guinea as worshippers of the sun. The Galla hold as sacred certain trees and stones, the moon, and some of the stars. Sometimes the Negroes frame idols with a human countenance; and Capt. Tuckey and Dr. Smith were surprised to see, on the banks of the Zera in the interior of Africa, idols with European figures, and resembling the Egyptian, or rather the old Tuscan statues. The Betjouanas have a kind of high-priest, who ranks as the most important personage after the king. At Dagoumba, in central Guinea, there is a famous oracle, the resort to which renders it the entrepôt of a flourishing commerce. According to M. Douville (who, though referred to by Balbi, is a very doubtful authority), the Cassange, Molouas, Muchingi, Moucangama, and other nations of southern Nigritia, like many tribes in its centre, unite to idolatrous superstitions the horrible practice of human sacrifices; and though of an hospitable disposition, are said to be cannibals. Such are the dreadful aberrations to which uninstructed and uncivilised man is exposed.

Among these nations, human sacrifices, according to M. Douville, take place only on the accession of a sovereign, or on the occurrence of some great epidemic. The victim is always selected out of the country, and, if possible, at a great distance from the place of sacrifice: it must be a young man or woman, and ignorant of the fate that awaits him or her till the moment of immolation. Should any one reveal the fearful secret, death is the inevitable penalty. During the interval between the selection and the sacrifice the victim is kept with the greatest care, and every possible means is adopted for the purpose of making him fat. On the arrival of the fatal moment, he is suddenly put to death in the midst of imposing solemnities, and in the presence of the king, grandees, and people assembled to witness the spectacle. His body is usually quartered, and immediately roasted, to be portioned out among the spectators according to their rank, and devoured on the spot. But enough of these brutalising enormities perpetrated in the sacred name of religion.

With the exception of Abyssinia and the colo-

uses founded in modern times on some points of the African coast, where Christianity is professed, Mohammedanism prevails in all the countries of Africa not devoted to Fetichism and idolatry. It is very widely diffused, having extended itself over the whole of Barbary, Egypt, Nubia, &c., and being professed by a considerable number of the more advanced Negro nations. Its introduction has been, perhaps, the greatest boon ever conferred on Africa, and has tended materially to improve the habits and morals of the people. The Koran is the only recognised code in many countries; and, what is singular, the Arabic is everywhere throughout Africa, with the exception of Abyssinia, the language used by such of the natives as either read or write. It was introduced in the first age of the Hegira, and has participated but little in the improvements that have since been made upon it in Asia. Arabic has been for some centuries the language of the Copts or descendants of the ancient Egyptians.

The Christianity that prevails in Abyssinia is largely alloyed with debasing practices and observances; and the priests are as ignorant and worthless as can well be imagined. With the exception of the Cape Colony, the seats of Christianity in other parts of the continent are too trifling to deserve notice; but a considerable number of Christians of various denominations, and of Jews, are found in countries where Mohammedanism and Fetichism are prevalent.

Language.—Balbi has given a classification of the people of Africa according to their languages. Perhaps it was impossible to have selected a worse standard. We know little, and sometimes literally nothing, of the people in some very extensive countries, and if it is possible we know still less of their languages. Our knowledge of the latter is indeed in most instances exceedingly imperfect; so that any classification of the people bottomed on it must necessarily be little else than a tissue of errors. The Arabic, as we have just seen, is the learned language of the entire continent. The Berber is the vernacular idiom of the Barbary states; the Sango is used in Guinea; and the Foul, the Iolof, &c., bear the names of the people by whom they are spoken. The Ambounda is the language of all the tribes between the Congo and the coast of Mozambique. As was to be expected from the low state of civilisation of those by whom they are used, these languages are all miserably poor. The reader will find in the article Abyssinia some account of the language of that singular portion of the African continent. Speaking of the language of the tribes of the south, Dr. Livingstone says: 'The structure, or we may say the skeletons, of the dialects of Caffre, Bechuana, Banyiye, Barotse, Batoka, Batonga or people of the Zambesi, Mashona, Babisa, the negroes of Souda, Angola, and people of the West coast, are wonderfully alike. A great proportion of the root is identical in all.' The most regularly developed of all negro languages is the dialect of the Bechuanas, into which the Bible is now nearly all translated. The *Hassia* language is the most sonorous and beautiful of all the languages of Negroland, but grammatically defective. The *Kausiri* is very rich in grammatic forms. A complete grammar and dictionary of the Demara tongue has now been made by the Rhenish missionaries.

Government.—Most forms of government may be found in Africa. Despotism, however, in its worst and most offensive shape, is by far the most prevalent. In some states there exists a sort of feudal aristocracy, and in others an aristocracy depending on the rude distinctions of superior strength and prowess in war, which participates to a

greater or less extent in the rights of sovereignty, and in some they are occasionally shared by the people. Some large states consist of a kind of confederacy of petty chiefs, who, however, are very frequently at war with each other. In fact, with but few exceptions, slavery and anarchy reign triumphant throughout Africa. And it would be to no purpose, even if we were accurately informed as to the discrepancies in the forms of government established in different parts, to waste the reader's time by detailing in what respect one barbarous and generally fluctuating system of government differed from another. Since the year 1852, when the privilege of self-government was accorded to the colony of the Cape of Good Hope, the improvement in its development and resources has been most conspicuous. Algeria, too, has to be reckoned as possessing a civilised government, as well as the other colonies on the African coast possessed by France, Britain, and Portugal; while of late years, in Egypt, some approaches have been made to European models, with the advantage of greatly stimulating material prosperity by securing at least stability and good order.

Industry in Africa is at the lowest ebb. Except where they are associated with or have been instructed by Europeans or Arabs, the Africans have made little progress in the arts. All the more laborious occupations are devolved on females; and in some parts the wives of kings or petty princes are made to till the land for the support of their barbarian lords. Even the most necessary arts are in an extremely backward state.

Commerce.—It may appear a singular and not easily explained fact, that notwithstanding the low state of the arts in Africa, and the difficulties of the country, an extensive intercourse has been carried on, from the remotest antiquity, between very distant parts of that continent. This, no doubt, has been owing to the natural productions in greatest demand being confined to certain localities; and to the facilities afforded for traversing the vast deserts which intersect Africa by the aid of the numerous oases with which they are studded; and the employment of the camel, or *ship of the desert*. Salt and dates are the principal articles conveyed from northern to central Africa. The extensive region of Soudan, to the south of the great desert of Sahara, is completely destitute of these valuable articles. Both of them, but especially salt, are, however, in great demand in it; the latter being, in many parts, so highly prized and so scarce as to be employed to perform the functions of money. This necessary article is found in various places in the desert, while dates are found in the greatest abundance all along its north frontier, the country adjoining to it being called from this circumstance Biledulgerid, or the *country of dates*. But, though destitute of these important products, central Africa has others; such as gold dust, ivory, gums, palm oil, feathers, and, above all, slaves, for which there has always been a ready market in Barbary and Egypt. In consequence of this natural adaptation of the products of one part of the continent to supply the wants of another, an intercourse has subsisted amongst them from the remotest antiquity. Even so early as the days of Herodotus, the merchants engaged in the interior traffic had penetrated as far as the Niger, or one of the rivers flowing into lake Tchad; which the venerable father of history correctly describes as a considerable river beyond a sandy desert, which it required many days to cross, flowing eastward, and infested with crocodiles! (II. § 32.) Egypt and different towns in the N. or Barbary states have always been, and continue to be, the great seats of this trade. It is carried on at present

as it was 8,000 years ago, wholly by caravans. These consist of an indefinite number of camels, seldom less than 500, and often as many as from 1,500 to 2,000. They do not follow a direct course across the desert from their point of departure to where they are destined, but diverge to the oases, or verdant spots, where they procure water and refresh themselves. If they be disappointed in finding water at one of these resting-places, or be overtaken by a land-storm, the consequences are often most disastrous. In 1805, a caravan proceeding from Timbuctoo to Tafillet, not having found water at a resting-place, the whole persons belonging to it, 2,000 in number, with about 1,800 camels, perished miserably! (Jackson's Morocco, p. 389. See also the excellent chapter in Heeren, on the Land Commerce of the Carthaginians.)

Exclusive of this internal commerce, Africa has carried on a considerable commerce by sea, since the discovery of her W. coasts by the Portuguese; but the probability seems to be, that she has lost more than she has gained by this commerce. Slaves have been the staple article of export from the African coast; and in some years as many as 110,000 or 120,000 have been carried across the Atlantic. It has been said, and no doubt truly, that the opening of this new and vast outlet for slaves was advantageous to Africa, by lessening the odious practice of cannibalism, and preventing the immolation of the captives taken in war. But, admitting this, it seems notwithstanding abundantly certain that the slave-trade has been productive of a far greater amount of misery than it has suppressed. Without stopping to inquire whether death might not be preferable to slavery, it has multiplied the latter in no ordinary degree. Formerly the peace of the country was comparatively little disturbed by wars; but now a wholesale system of brigandage and robbery is organised in many extensive districts; the bulk of the people being hunted down like game by the petty princes, and by the Mohammedans, who affect to believe that they are entitled to capture and sell the 'idolaters,' to serve as beasts of burden in another hemisphere. Hence it is that the suppression of occasional instances of cannibalism, and of the sacrifice of human victims, has been supplanted by a widely diffused system of rapine, productive of a total want of security, and subversive of everything like good government and good order. Until this state of things be totally changed, it would be idle to expect that civilisation should make any progress in the countries where it exists. Its abolition is indispensable as a preliminary measure to give them even a chance of emerging from the barbarism in which they have been so long involved.

There seems to be a reasonable prospect that the meritorious efforts of Great Britain for the suppression of the slave-trade will, at no very distant period, be crowned with success, in so far at least as the nations of Europe and America are concerned. But it is quite otherwise with the slave-trade carried on from the interior with the Barbary states, Egypt and Arabia. There are no grounds for supposing that it will be speedily suppressed; probably, indeed, it is destined for a while rather to increase. Luckily, however, it is much less extensive than that carried on from the W. coast, the entire export of slaves rarely amounting to so many as 10,000 in a single year, and it is not accompanied by so many disastrous results.

Exclusive of slaves, palm oil, gold dust, ivory, gums, teak, timber, wax, hides, and feathers are the principal articles imported into W. Europe and America from Africa. Mozambique exports ivory, bees-wax, sesame seed, orchella, coffee,

tortoise-shell, arrow-root, sago, and other commodities. Zanzibar, in lat. $6^{\circ} 28' S.$, and long. $39^{\circ} 38' E.$, exports gold, ivory, drugs, coir, coconuts, gums, bees-wax, tortoise-shell, spice, rice from Pemba, sesame seed from Angoxa, and a large quantity of timber. In 1818 cloves were introduced into Zanzibar, and thrive so well that they have to a great extent superseded the cultivation of the sugar-cane. The imports of Zanzibar may be valued at 500,000*l.* per annum. Lamu, in lat. $2^{\circ} 15' 45' S.$, and long. $41^{\circ} 1' 5' E.$, carries on a considerable trade in hides, and the exports from Zanzibar. Brava, lat. $1^{\circ} 6' 40' N.$, and long. $44^{\circ} 3' E.$, trades largely with India and Arabia, and its trade with America rapidly increases. It exports, hides, bullocks, horses, and camels, the skins of wild animals, and some other things. Beside the actual commerce thus going on in East Africa, M. McLeod, to whose 'Travels in Eastern Africa' we are indebted for these details, points out various other places in this part of Africa, which are rich in produce, and admirably adapted for trade: Ibo, Melinda, Mombasa, and Usambara offer great advantages in this way. Perhaps exaggerated notions have been entertained of the value of the trade and of its capacity of extension. That it may be materially increased is, no doubt, true; but the fair presumption seems to be, that till civilisation has wrought a radical change in the African character, the wants of the native Africans, and their industry, are much too contracted to admit of their ever becoming extensive demanders of European produce.

Carthage, the first maritime power of antiquity, though situated in northern Africa, was a Phœnician colony, and her fleets were principally manned from her colonies in the Mediterranean. Since the fall of this powerful republic, no African people has had the smallest claim to be called maritime. The most advanced nations are at this moment, and have always been, nearly ignorant of the art of ship-building. It is to European engineers and carpenters that the Pacha of Egypt is indebted for his ships; and every one knows that this was formerly the case with the Deys of Algiers, Tunis, &c. In some few places the natives fit out a sort of large cutter; not, however, for the purpose of trade or fishing, but to engage in piracy.

Besides salt, to which we have already alluded, gold dust or *tibbar* and cowries are the articles principally used as money in Africa. The latter, a species of small shell gathered on the shores of the Maldivé islands, are used in small payments throughout Hindostan; but in the interior of Africa their value is about ten times greater than in Bengal.

The social condition of the people of Africa is as depressed as their industry and their science. The practice of polygamy is diffused all over Africa; and though forbidden in Abyssinia, the marriage tie is there so slight as hardly to have any sensible influence; and morals are, in this respect, in a state of almost total dissolution. That cannibalism formerly existed to a frightful extent in many parts of Africa, cannot be doubted; and though it has greatly declined, partly because of the introduction of Mohammedanism, and partly, and principally, perhaps, because of the ready and advantageous markets that have long been opened in the West Indies and America for the slaves or captives taken in war, there seems to be no doubt that it still exists among certain tribes. Among some considerable nations the exposure of children, and the slaughter of those that are deformed or maimed, is not tolerated merely, but enforced. In some parts human blood is reported to be

mixed up with the lime or mortar used in the construction of temples. And it is said to be usual among the greater number of the nations on the coast of Guinea for rich individuals to immolate human victims once in their lives to the manes of their fathers. (Balbi, *Abbrégé*, p. 849, 2nd ed.) Atrocities like these are, however, principally confined to the least improved tribes of the Negro race. But, speaking generally, barbarism, cruelty, and the most degrading superstition are universally prevalent among by far the greater number of the nations of African origin. (See art. ASIATICS.)

As already stated, with the exception of Egypt and Abyssinia, all the science and literature to be found in Africa are of Arabic origin. The Arabs have schools established in Cairo, Merou, and Darfour, in the region of the Nile; in Morocco, Fez, Algiers, Tunis, &c., in Barbary; and there are schools among the Mandingoes, Foulahs, Jolofs, and other Mohammedan nations of central Nigritia or Soudan: these are placed under Mohammedan teachers, and assist in disseminating the rudiments of Arabic learning and science. The European colonies at the Cape, Algiers, and various other places along the coast, have been regarded as so many centres, whence the language and literature of Europe might be expected gradually to spread over the whole continent. But our anticipations in this respect are far from sanguine; and the presumption seems to be, that if barbarism and ignorance are not to be immortal, they are, at all events, destined to a prolonged existence in Africa.

Causes of the Inferiority of the Africans.—The low state of the arts in Africa, and the barbarism that so generally prevails in it, have been variously accounted for; and, perhaps, we are yet without the means of coming to any satisfactory conclusion in regard to either matter. But it would seem that the first, or the low state of the arts, is mainly attributable to the climate, which supercedes the use of many articles indispensable in regions more to the N. and S. Manufacturing industry is principally devoted, in European and Asiatic countries, to the production of articles of clothing; but where clothes are an incumbrance, and most of the people are satisfied if they have a piece of coarse common cotton stuff to wrap round their middle, it would be absurd and contradictory to expect that this great department of manufacturing industry, and its many dependent and subsidiary arts, should make any progress. The agriculture, too, of the greater part of Africa is exceedingly unfavourable to the development of a spirit of enterprise and invention. The seasons differ but little from each other; and in those tracts not condemned to perpetual sterility, that is, in the tracts watered by the periodical rains, or by the overflowing of the rivers, the rudest husbandry is sufficient, the heat of the sun operating on the moisture of the soil being all but enough to produce the most luxuriant crops. The houses, too, in tropical climates may be constructed at comparatively little expense; and, except for the cooking of victuals, fires would be a nuisance. It is idle, therefore, to wonder at the backward state of industry in Africa. It would be as reasonable to expect to find a manufactory of freezing machines at the North Cape, as to expect to find extensive cloth factories in Nigritia. The industry of a country always bears some proportion to the wants and necessities of its inhabitants; and few comparatively of those things which employ a large part of the industry of Europeans being wanted in Africa, they are but little produced.

It is true that besides the great articles now referred to, there are others, such as articles of show and ostentation, arms, and jewellery, for which it might be supposed the taste in Africa would be as strong as in Europe. But these are costly articles; and, in point of fact, are never found generally diffused in any country not distinguished by its industry. Men are not instinctively laborious or enterprising. Industry is with them only a means to an end—a sacrifice they must pay to obtain supplies of the necessaries and conveniences of human life. Wherever the sacrifice required to procure food, clothes, and other necessary accommodations is considerable, the population is generally industrious; and a taste for labour being widely diffused, those who are not obliged to apply themselves to the production of necessaries, engage in the production of superfluities. But wherever the principal wants of man may be supplied with but little exertion, indolence becomes the distinguishing characteristic of the population; and instead of employing their spare time in the production of articles of ostentation and luxury, they usually waste it in idleness and apathy.

In addition to the circumstances now mentioned explanatory of the low state of the arts in Africa, and the barbarism prevalent in it, the Negroes and other African races have been supposed by some philosophers to be naturally inferior in point of intellect, and not to possess the same capacity for improvement as the Europeans, or people of the Caucasian variety. This supposition has, however, been vehemently denied; and it has been contended over and over again, that the peculiar circumstances under which they have been placed sufficiently account for the condition of the Africans—for their want of a literature and their low civilisation. That great weight should be attached to the considerations now mentioned is true; but still they are insufficient wholly to account for the existing state of things. Egypt was, at a very remote period, the principal seat of science and of art; and various nations of Africa were in contact with, and had a pretty extensive intercourse with, the Egyptians, and also with the Phenicians, and afterwards the Romans. But they seem to have profited little or nothing by this association. And while the people of Greece, Asia Minor, and Magna Græcia raised themselves in a comparatively brief period to the highest pitch of civilisation and refinement, the nations of Africa continue, without a solitary exception, down even to the present day, immersed in the grossest barbarism. Yet, during the space of 8,000 or 4,000 years, opportunities must have been afforded to some of them to make advances.

With the exception of that of the ancient Egyptians and Ethiopians, whose descent is involved in the greatest uncertainty, almost all the civilisation that exists in Africa seems to be of foreign origin. The introduction of Mohammedanism, though in a debased form, has, as previously stated, gone far to banish cannibalism from many countries; and some of them have also adopted the letters and literature of Arabia. But the progress they have hitherto made is not such as to lead to any very sanguine anticipations as to their future advancement; and it would not, indeed, be very philosophical to suppose that those who have been wholly unable to produce any thing original should attain to much eminence in the practice of foreign arts and sciences.

It is unnecessary to enter into any examination of the *verata questio*, whether the varieties of the human race in Africa originally sprung from

different sources, or whether they all belong to the same stock, but changed to the state in which we find them by the influence of circumstances in the lapse of ages. Whatever conclusion may be come to on this point cannot in anywise affect the question as to the comparative intelligence of the African people. The same circumstances that are supposed by those who contend for the original identity of the races to have so greatly affected their appearance and physical capacities, could hardly fail to have an equally powerful influence over their mental faculties. This in fact is substantially admitted by Dr. Prichard, who has ably contended for their common origin, and the equality of their intellect with that of the other races. 'The tribes,' says he, 'in whose prevalent conformation the negro type is discernible in an exaggerated degree, are uniformly in the lowest stage of human society; they are either ferocious savages, or stupid, sensual, and indolent. Such are the Papals, Bulloms, and other rude hordes on the coast of Western Guinea, and many tribes near the Slave coast, and in the Bight of Benin; countries where the slave trade has been carried on to the greatest extent, and has exercised its usually baneful influence. On the other hand, wherever we hear of a Negro state, the inhabitants of which have attained any considerable degree of improvement in their social condition, we constantly find that their physical characters deviate considerably from the strongly marked or exaggerated type of the Negro. The Ashantee, the Sulema, the Dahomans, are exemplifications of this remark. The Negroes of Guber and Hausa, where a considerable degree of civilisation has long existed, are, perhaps, the finest race of genuine Negroes in the whole continent, unless the Jolofs are to be excepted. The Jolofs have been a comparatively civilised people from the era of their first discovery by the Portuguese.' (Researches into the History of Man, ii. p. 338. 3rd ed.)

It is doubtful whether this is a perfectly correct statement; but at any rate it may be worthy of consideration as coming from a great authority on questions of race. As to the negro, the new era opening for him in the great American republic, where he has been freed at such boundless expenditure of European blood, must ultimately settle the question whether he is fit for a higher civilisation.

Geographical and Political Divisions.—Africa has been variously divided, according as one standard or another has been adopted. Owing to the barbarism of the people, our ignorance of the different states into which the continent is divided, and the revolutions to which they are perpetually subject, any distribution of the country founded on its political divisions would be almost impossible; and, however accurate at the time, would speedily become quite obsolete. A better method would be to distribute it according to the races of people by which it is principally occupied; but as these are in parts very much blended, and it is sometimes no easy matter to say which predominates, it seems, on the whole, the better way to distribute it according to the great natural features of the country. On this principle, Africa may be distributed as follows, beginning with the North:—

1. The *Barbary States*, including the whole country N. of the desert of Sahara, and W. of the 26th degree of E. long.
2. *Sahara*, or the Great Desert.
3. The *Region of the Nile*, including Egypt, Nubia, Abyssinia, Senaar, Kordofan, and all the country drained by its affluents.

4. *Nigritia*, which may be subdivided as follows, viz.:—

- a. *Soudan*, or N. Nigritia, being the country to the S. of the Sahara and N. of the Kong mountains, watered by the Senegal, Gambia, Niger, and the rivers flowing into the great lake of Tohad.
 - b. *Central Nigritia*, being the region between the Kong mountains and the N. shore of the gulph of Guinea to the Bight of Biafra.
 - c. *Southern Nigritia*, including the countries from the Bight of Biafra along the coast to Cape Negro, and inwards to the sources of the rivers flowing through it to the coast.
5. *Southern Africa*, or the region S. of Cape Negro on the W., and of the Zambesi river on the E.
 6. *Eastern Africa*, or the region N. of Zambesi river, round by the sea coast to the confines of Abyssinia and the Gebel-el-Komri, or Mountains of the Moon.
 7. The *Islands of Africa*, including the Madeira, Canary, and Cape de Verde islands on the W. coast, with those of St. Helena, Ascension, &c., and on the E. coast the great island of Madagascar, the Isles of France and Mauritius, Socotra, &c.

Progress of Discovery.—Africa, among all the quarters of the globe, has always been the chief object of curiosity and discovery. Her Mediterranean coast indeed was well known to the ancients, and included in their circle of civilised states. But her eastern and western limits, stretching an indefinite extent southward, long baffled the attempts to reach their termination and that of the continent; while immense deserts barred the access into the interior. A peculiar difficulty was also found in tracing the source, and sometimes the termination, of the mighty rivers by which its inland regions are watered.

Tyre, the earliest seat of a flourishing commerce, might be expected to seek a route to the distant parts of Africa. In the curious account given by Ezekiel, Tarshish is mentioned as both the most remote and most important place with which she trafficked. The learned, however, have been much divided respecting its site; but the Tarshish to which the Tyrians sailed down the Mediterranean, whence they imported iron, silver, lead, and tin, the products of Spain and Britain, was most probably either Carthage, or the S. part of Spain. Carthage made violent efforts to prevent other commercial powers from penetrating beyond Sicily, thus seeking to monopolise the exclusive trade of the remoter countries, of whose products her merchants would, of course, keep an assortment.

Mention, however, is made of another route to Tarshish, by the Red Sea, which has singularly perplexed geographers. It was opened by Solomon, during the most prosperous period of the kingdom of Judaea, and aided by an alliance with Hiram, king of Tyre. To reconcile these two voyages, M. Gosselin supposes the term to mean 'the ocean' as distinguished from inland seas or gulphs: so that one voyage was to the Atlantic, the other to the Indian Ocean. But all the modes in which Tarshish is mentioned—the fare of a vessel thither, its merchants, its kings—seem inconsistent with so very vague a sense; nor does there appear any room to think the Jews ever viewed the Mediterranean as an inclosed sea. We are disposed therefore to prefer the suggestion of Mr. Murray, in the Encyclopedia of Geography, that the Tyrians gave the name of Tarshish to the whole continent, of which it formed for them the most important part. Tarshish, in this larger sense, becomes nearly synonymous with Africa; the one voyage was along its northern, the other along its eastern coast.

Ophir is another country much celebrated in the Jewish scriptures, particularly for its gold. Many learned men have sought it in India, though gold was not then an article of export

from that country, but the contrary; and no one staple of Indian trade is mentioned as brought from Ophir. Indeed its position seems clearly fixed, when we find the Red Sea voyage to Tarsish described elsewhere as one to Ophir. The latter, then, was on the eastern coast of Africa, where gold is nowhere found north of the Zambeze. Here accordingly we find Sofala, long the chief emporium of that river; and it may be observed that Ophir is called in the Septuagint *Sopheira*, while the modern Arab term is indifferently *Zofar* or *Zofot*.

This intercourse did not survive Solomon, whose successors, weakened by the division of the kingdoms, were unable to maintain it.

Our next information is derived from Herodotus, who, during his residence in Egypt, made very careful inquiries of the priests and learned men. He gives a very curious report of no less an exploit than the entire circumnavigation of Africa. Necho, one of the greatest Egyptian princes, engaged for this purpose Phœnician mariners, who descended the Red Sea, and having reached the ocean, landed, sowed a crop, reaped it, and renewed their voyage. Thus they proceeded for two years, and in the third entered the Pillars of Hercules. They remarked that, in rounding Africa, they had the sun on the right, that is, on the south, which must have been correct. This brief relation has given rise to a mass of controversy. (Herodotus, iv. 42; Gosselin, *Géographie des Anciens*, i. 199-216; Rennell, *Geog. Herodotus*, a. 24, 25.)

Herodotus has given a detailed account of the wild and wandering tribes behind the Atlas ridge, extending to and somewhat beyond Fezzan.—He adds an interesting narrative of an expedition to explore the interior, undertaken by some youths from the country of the Nasamones lying inland from Cyrene. They passed, first, a verdant and cultivated territory; then a wild region filled with wild beasts; next entered into an arid dreary desert. Here, while plucking some wild fruits, a party of black men surprised and carried them along vast marshes and lakes to a city situated on a river flowing eastward. These last features, after they were within the desert, could not be found short of central Africa; but it is doubtful whether they refer to Timbuctoo and the Niger, as supposed by Rennell and Heeren, or to the lake Tchad, and the Yeou or river of Bornou.

Another singular circumstance mentioned by Herodotus relates to a traffic for gold carried on by the Carthaginians with a people beyond the straits, and managed in a peculiar manner, without the parties seeing each other. There is no gold in Africa north of the Senegal or Niger; but whether the Carthaginians penetrated thither, or the gold was brought by natives across the desert, there seem no means of certainly determining.

The records of Carthage, which would have thrown so much light on ancient commerce and geographical knowledge, have unfortunately perished. There remains only one valuable document, the narrative of a voyage by a commander named Hanno, sent to found colonies on the western coast, and to push discovery as far as possible. He is said to have carried with him sixty vessels, and no less than 80,000 men, women, and children. After passing the straits, he founded successively four colonies in convenient situations; then sailing three days along a desert coast, came to Cerne, a small island in a bay. In its vicinity he visited a lake, through which flowed a large river, and another stream full of

crocodiles and hippopotami. Then, returning to Cerne, he sailed twelve days along the coast of the Ethiopians, a timid race, who fled at the approach of strangers. His party then reached and sailed for several days along a coast, where they observed many striking objects. In one place the earth was so hot that it could not be trodden; torrents of flame were seen to roll along it and rush into the sea. During the day there appeared only a vast forest; but in the night, the air was filled with the sound of musical instruments and of human voices. Landing on an island they found a singular race of beings, in human shape, but with rough skins, leaping from rock to rock with preternatural agility. Towards the close of their voyage, there appeared a very lofty mountain, seeming to reach the skies, called the Chariot of the Gods.

This voyage has been the subject of elaborate dissertation by learned men, who have differed very widely as to its extent. Bougainville carries it to Cape Three Points on the Gold Coast, Rennell to Sierra Leone; while Gosselin restricts it to the river Nun, in Morocco. The first space exceeds 8,000 miles; the latter falls short of 700. The difficulties are very great; not a single name coincides; the descriptive features are too slight to fix any one spot with precision. The period, estimated only at 88 days, seems scarcely adequate to so long a voyage of discovery along an unknown coast. Yet the aspect of man and nature; the Ethiopians or black races; the gorilla, evidently large apes, whose form resembled the human; the great rivers, full of crocodiles and hippopotami; the conflagrations, apparently occasioned by the still prevalent custom of burning the grass at a certain season; silence during the day, with music and gaiety in the night,—all these strongly suggest tropical Africa. Gosselin indeed maintains that the coast of Morocco, in its then comparatively rude state, would much more than now resemble the negro countries; but this seems scarcely to account for all the above particulars. (Hannonis Periplus, in Hudson's *Geog. Græc. Min. tom. i.*; Rennell, *Geog. Herodot. sect. 16-26*; Gosselin, *Géog. des Anciens*, i. 61-164; Bougainville, in *Mémoires de l'Académie des Inscriptions*, xxvi. 10.)

The Persians, who entertained an almost superstitious dread of the sea, were little likely to extend maritime knowledge. Yet Xerxes showed some interest in the subject. Having condemned to death Sataspes, a Persian nobleman, he was persuaded to commute the sentence to that of circumnavigating Africa. Sataspes passed the straits, but soon terrified by the stormy ocean and rocky shores, he returned, and declared to his sovereign that the vessel had stopped of itself, and could not be got forward. The monarch indignantly rejected this apology, and ordered the original sentence to be executed. The attempt was not renewed; and under this empire the knowledge of Africa seems to have on the whole retrograded. When Alexander sent an expedition down the Persian gulph to seek its way into the Red Sea, it returned without success; whence the inference was made that no communication existed.

Under the Ptolemies, though they were an enterprising dynasty, and a learned school of geography was then formed, little progress was made. The prevailing hypothesis of an uninhabitable torrid zone at once indicated the limited amount of knowledge, and tended to perpetuate it. The map of Eratosthenes makes Africa an irregular trapezium, of which the N. and S. sides were nearly parallel, and the whole terminated N. of

the equator. The coasts beyond the Straits of Gibraltar and Cape Gardafui, being observed on both sides to converge, were supposed to continue in that direction and meet. A navigator named Eudoxes, partly aided by Ptolemy Evergetes and by the merchants of Cadiz, made several spirited attempts to perform this voyage, of which he did not suspect the extent; but he returned always without success.

The Romans did not much advance the knowledge of interior Africa. Mela, without any additional information, adopts the system of Eratosthenes, with some fanciful additions. Pliny, however, had access to all the information collected by the Roman chiefs and commanders. Scipio had sent Polybius to explore the western coast, which was surveyed by that officer for about 800 miles, consequently not beyond the limits of Morocco. Suetonius Paulinus had penetrated into the region of Atlas, describing its lofty and rugged steeps richly clothed with forests. Under Vespasian, Cornelius Balbus made an expedition into the desert, receiving the submission of Cydamus (Gadamis), and Garama (Germa), but we can scarcely identify Boin with Bornou.

Alexandria meantime, under the impulse given by the luxurious consumption of Rome, acquired a great extension of commerce. She opened a regular communication with India, and also to a considerable extent along the eastern coast of Africa. Both are described in an important commercial work written in the first century, called the *Periplus of the Erythrean Sea*. The African course terminates at Rhapta, a promontory and flourishing port, the position of which, however, from the usual causes of changed names and vague descriptions, is open to controversy. Vincent fixes it at Quiloa, while Gosselin makes it Magadorea, not quite a third part of the distance from the ascertained point of Cape Aromata (Guardafui). But the former has one conspicuous feature; five successive large estuaries, which Gosselin owns himself unable to find within his limits, but which actually occur a little north of Quiloa, in the mouths of the great river Quillimanci. There seems little room to hesitate therefore in fixing Rhapta at Quiloa. The gold of the Zambezi had not reached this port, the exports from which consisted only of ivory, tortoise-shell, and slaves. (*Periplus*, in *Geog. Græc. Minor.* tom. i.; Gosselin, *Géog. des Anciens*; Vincent, *Periplus of the Erythrean Sea*.)

About a century after, Ptolemy published his geographical work, the most complete of any in ancient times. On the eastern coast he adds to that described in the *Periplus* an additional range, stretching south-east from Rhapta to another promontory and port called Prasum; considerably south-east from which lay a large island, Menuthias, evidently Madagascar. According to Gosselin, Prasum is Brava, while Vincent makes it Mozambique; but the south-easterly direction of the coast seems to limit it to Cape Delgado. This too would harmonise with Ptolemy's singular theory of a great austral continent extending from Prasum to the coast of the Sinae (China), thus making the Indian Ocean an immense inland sea.

In regard to the W. boundary, Ptolemy's ideas seem by no means very precise. His graduation shows an extent of coast which would reach far into tropical Africa; yet the Canaries are placed opposite to his most southern limit, which would thus seem scarcely to have reached beyond Morocco. Gosselin accuses him of having employed the materials afforded by three different voyages along the same line of coast, supposing them to apply to separate and successive parts,

thereby trebling its extent; but we must hesitate in imputing to this eminent geographer an error so flagrant.

On the side of central Africa, Ptolemy delineates a very extensive region, reaching far south, which he names Interior Lybia. It contains two spacious lakes, the Lybian and the Nigritian, receiving the great rivers Gir and Niger, derived from chains of lofty mountains. A number of cities are inserted which cannot be recognised by modern names. But the remarkable circumstance is, that these objects appear contiguous to, and even connected with others, that unequivocally belong to northern Africa. Hence Gosselin and other writers conclude that his interior Lybia was not central Africa, but merely the region along the northern borders of the desert. We must observe, however, that the former, described as a region of mountain, river, and lake, all on a great scale, bears very little resemblance to the desert border of northern Africa. Our impression is that Ptolemy, receiving his intelligence from caravans coming E. from Bornou to the Nile, not from those crossing the great desert, was ignorant of the extent of the latter, and consequently of the interval separating northern from central Africa; and that he hence supposed and delineated the two as almost in contact. Yet this geographer had received intelligence of two marches, one by Julius Maternus from Cyrene, the other by Septimius Flaccus from Garama, who during periods respectively of three and of four months had penetrated into the country of the Ethiopians. Ptolemy scarcely gives credit to routes of such an extent; but he lays down Agysimba (perhaps Agadis), into which they penetrated, as the most southerly known region. As it contains neither rivers nor lakes, it cannot be central Africa; but if, in the manner above supposed, he was ignorant how far south that region lay, the length of the marches would necessarily oblige him to protract Agysimba beyond it. (*Geographia Nubiensis* (Edris), in *Latinum versa a Gabriele Sionita et Joanne Hebronita Climate*, i. parts 1, 2, 3, 4; *Notices des MSS. de la Bibliothèque du Roi* (Paris, 1789). The passages of these writers relating to Central Africa transl. in *Murray's Discoveries in Africa*, App. (2d ed.) ii. 519-583.)

In the seventh century a grand revolution changed the face of the world. The followers of Mohammed, inspired by fanatical zeal, issued forth from Arabia, and not only shook the Roman empire, but spread their conquests and settlements over countries never visited by the Roman arms. To Africa particularly they gave an entirely new face. Along its Mediterranean coast, they established several flourishing and civilised kingdoms. Their wandering habits, and the use of the camel, an animal expressly formed for sandy deserts, enabled them to overcome obstacles that baffled the Romans. The Sahara, across which no regular route appears to have been known to the ancients, was penetrated by them in different directions. Their dispersion was aided by the great schism between the dynasties of the Abbassides and Omniades. The vanquished party, in large bodies, crossed the desert, and formed settlements, where, under the title of Fellatus or Foulahs, they still exist as a race entirely distinct from the Negroes. Their possessions extended along a great river called by them the Nile of the Negroes, which, however, was not, as long supposed, our Niger, but a tributary flowing into it from the east, termed by Clapperton the Quarrama or Zirmie. Ghana, the modern Kano, was then the chief seat both of empire and commerce. The sovereign

displayed a pomp unrivalled in Africa, having his throne adorned with a mass of pure gold, indicating the commerce by which the city was enriched. This gold was found in a country to the south called Wangara, intersected by numerous branches of the Nile, and where the metal was extracted from alluvial earth. There is evidently some confusion here, as gold, in alluvial deposits, is only found in countries far to the west; the error probably arising from the channel by which it was brought. Farther east, on the Nile of the Negroes, Edriai represents Berisea and Tirka, which seemed to have been recognised by Clapperton in Bershee and Girkwa, still considerable towns. Farther in that direction, Kuku, a great and flourishing kingdom, is evidently Bornou, the capital of which still bears that name; while Kaugha, twenty days to the south, and distinguished by its arts and industry, appears pretty clearly to be the Loggun of Denham. Returning to Ghana, and proceeding down the river, we are conducted to Tocrur, an inferior yet large and powerful kingdom. It appears evidently to be Soccatoo, which, in a document quoted by Clapperton, is even called Takror. Sala, two days' journey lower, cannot now be identified. Farther west, the knowledge of the Arabians became most imperfect. They considered the ocean as only 500 miles beyond Tocrur, when it is nearly 2000. They notice in that direction the island of Ulil, at the mouth of the great river, whence all the countries on its banks were supplied with salt. This was pretty evidently suggested by Walet, the great mart for the salt of the northern desert; and its being reached across the great lake Dibble might attach to it the idea of an island.

About four centuries after Edriai, central Africa was visited and described by Leo, a Moslem Spaniard, who was even surnamed Africanus. A great change had now taken place, Timbuctoo having risen to be the most powerful city, the chief city of commerce and splendour, the mart for gold. The neighbouring states, including even Ghana, called now Kano, had become its tributaries. This writer mentions Bornou under that name, and adds for the first time other states that still subsist—Cassina, Guber, Zegzeg, and Zanzara. Eyo, under the name of Gago, is justly described as a large and fine kingdom, 400 miles south-east of Timbuctoo. In a western direction, Ghinea or Ghemeoa, distinguished for its great commerce, is the Jenné of Park. Thus all this part of the continent had assumed nearly the shape which it has ever since retained.

Soon after began that grand career of maritime enterprise, which terminated in the circumnavigation of the African continent and the discovery of a passage to India. It was carried on entirely by the Portuguese, and proceeded by gradual steps, from the rounding of Cape Bojador in 1483 by Gilianez, to the memorable passage of the Cape of Good Hope in 1497 by Vasco de Gama. During this long period, at every successive point, vigorous efforts were made to penetrate into the interior. These were inspired, not only by the report of gold mines and other objects of commerce, but still more by a hope of reaching the court of a mysterious personage named Prester John. This name appears to have originated in reports brought by Rubruguis and other early travellers of a ruling Nestorian bishop in central Africa. When, however, notices arrived of a Christian prince in Abyssinia, the name Prester John settled down upon him; and, ignorant of the breadth of the continent, they supposed that, at no very great distance from the western coast, his dominions might be found. The commanders were therefore in-

structed on every new discovery to make their first inquiry concerning Prester John; and though total ignorance was everywhere professed, they persevered, and really appear to have sent embassies even to Timbuctoo. Di Barros has given a pretty correct account of the position of that city, and of Genni (Jenne) its rival. The English and French found a considerable Portuguese population on the Senegal and Gambia, and many words of that language current among the people of Bambouk. Yet nothing was done to correct the Arabian idea of the Niger rolling westward into the ocean; and the Senegal was therefore considered as forming its lower course, though Di Barros expresses wonder that, after passing through so many regions, it should not have rolled a greater body of waters.

The Portuguese formed leading settlements at Elmina on the Gold coast, and at the mouth of the river Formosa, which has now proved to be that of the Niger. They learned that the rulers here, on their accession, were accustomed to send ambassadors about 250 leagues into the interior to the court of a prince named Agané, from whom, as from a superior lord, certain symbols were received, which formed the prince's investiture. This potentate, during the interview, was screened from view by a silk curtain, and only at the close his foot was put forth, to which they did homage. (Di Barros, Asia, b. iii. ch. 3-12.) Major Rennell, with seeming reason, presumes this to be the king of Ghana; and in the maps of the sixteenth and seventeenth centuries there appears a very large lake named Guardia, which, from the site and a rude resemblance of name, we suspect to be the Tchad; but D'Anville, finding no authority in its support, expunged it. The Portuguese also formed considerable settlements on the coast of Congo, which, to a certain extent, they still retain; and their missionaries penetrated to some distance inland. After passing the Cape, and on the way to India, they sailed along nearly the whole of the eastern coast as far as Melinda and Mombassa. The king of Portugal had previously sent out two envoys, Covilham and De Payva, to reach India by way of the Red Sea. Their notices and observations, coupled with those of the circumnavigators, first conveyed to Europe a full view of the outline and circuit of this vast continent.

Covilham, in returning, settled in Abyssinia, and transmitted such accounts as induced his sovereign to send thither a succession of missionaries, through whom copious accounts were received of that remarkable country, scarcely at all known to the ancients. They did not, however, carry discovery far into the interior of the continent; and, indeed, such ignorance prevailed on the subject that, in the maps of the seventeenth century, Abyssinia and Congo are brought nearly into contact, while the Nile rises almost in the vicinity of the Cape of Good Hope.

In Europe meantime a growing interest was excited respecting the course of the Niger, the country of gold, and the trade of Timbuctoo. It was heightened by the conquest of that city by the emperor of Morocco in the end of the sixteenth century. In 1618, an English company was formed for the purpose of penetrating thither, by ascending the Gambia, supposed one of the mouths of the Niger. They sent out Captain Thompson, who, leaving his vessel at Kassar, went in a boat to Tenda, which no European had yet reached; but he was killed in a contest with the natives, another body of whom, instigated by the Portuguese, attacked and massacred most of the men in the vessel. Another crew, sent to reinforce him, fell almost all victims to the climate. In 1620,

Captain Richard Jobson came out with a larger armament, and, undismayed by these evil tidings, made his way considerably higher than his precursors. He even supposed, on erroneous information, that he was near Timbuctoo, and returned with the intention of actively resuming his researches, but was prevented by a quarrel with the merchants, who lost courage, and dropped the undertaking. (Jobson, *Golden Trade, or a Discovery of the River Gambia*. Lond. 1623.)

A century elapsed without further effort, till the Duke of Chandos, director of the African Company, entertained the idea of enlarging its scanty profits by opening a communication with the country of gold. He sent out, in 1723, Captain Bartholomew Stibbs, who having procured canoes, pushed vigorously up the river. On passing the falls of Barraconda, however, the stream became in many places so extremely shallow, that even his little boats could scarcely be dragged upward. He was finally obliged to stop nearly at the point which Jobson had already reached. His information led him to conclude that 'the original or head of the river Niger is nothing near so far in the country as by the geographers has been represented.' The Gambia, at a little distance upwards, was described as dwindling into a mere rivulet. It had no communication with the Senegal, or with any lake. He nowhere heard the Niger named, and had great doubts if such a river existed. Moore, a zealous agent of the company, strenuously repelled this conclusion, and endeavoured to overwhelm him by quoting Pliny, Ptolemy, Leo, and other high authorities; but Stibbs, though unable to meet him on this ground, continued not the less steadily to affirm what he had seen with his own eyes. (Moore, *Travels in the Inland Parts of Africa*. Lond. 1738.) In fact, notwithstanding one or two other attempts, the English made no farther discoveries in this quarter, nor obtained any intelligence of the real Niger.

The French meantime were making greater exertions on the Senegal, which they early chose as their place of settlement. About 1630, a commercial intercourse had been opened by some merchants of Rouen and Dieppe, without any settlement, the crews merely erecting temporary huts during their stay. (Tannezina, *Voyage de Lybie*. Paris, 1645.) They were obliged, however, in 1664, to give way to the great West India Company, whose privilege included also western Africa. In nine years, however, it fell; and on its ruins was erected a second, succeeded by a third, fourth, and fifth, which last was merged in the Mississippi scheme. These, like similar mercantile associations, were all disastrous; but each had its interval of activity, during which a good deal was done to extend discovery and trade. The chief efforts were made by the Sieur Brue, appointed governor in 1697. From Port St. Louis, where a settlement was now formed, he immediately sailed up the river, with a view to adjust some differences with the Siratik or king of the Foulahs, and open a trade with its upper regions. He succeeded in his negotiations, and had hoped to reach Gallam, but was obliged to stop at Ghiorel, where he erected a fort. In 1698 he reached Gallam, and arrived at the rock of Felu, which stops the navigation for large barks. At Dramanet he fixed on a position for a fort, which was soon after erected under the name of St. Joseph, and became the centre of French interior trade. Through the exertions of one Compagnon, he acquired a full account of Bambouk and its gold mines, the most productive in Africa. He laid before the company a plan for conquering the country, which he undertook to

effect with 1,200 men, but could neither obtain the requisite authority nor means. He made diligent inquiries respecting the regions beyond, and obtained pretty distinct accounts of Bambarra, the lake Maberia (Dibbie), and Timbuctoo. Respecting the Niger, two opposite statements were made. According to one, it flowed westward, and divided into the three branches of the Gambia, the Faleme, and the Senegal; while others asserted its course to be eastward. The former continued to be the popular belief; but D'Anville, who bestowed much attention on the subject, and had access to the best documents, became convinced that there was a great river quite distinct from the Senegal, which flowed eastward, and was the one that passed by Timbuctoo. Upon this principle he formed his map of Africa, a wonderful effort of sagacity and ability, and which, in fact, is still tolerably correct as to a great part of that continent. (Labat, *Afrique Occidentale*, 5 tom. Paris, 1728. Golberry, *Fragments d'un Voyage en Afrique*, 2 tom. D'Anville, *sur les Rivières dans l'Interior de l'Afrique*, *Académie des Inscriptions*, tom. xxvi. 64.) By restricting Abyssinia and Congo to their true limits, and obliterating imaginary features, this great geographer first exhibited that vast interior blank which so strongly excited the curiosity and enterprise of Europe.

The spirit of African discovery slumbered in Britain till 1788, when it burst forth with an ardour which led to the most splendid results. In that year was formed the African Association, composed of a number of distinguished individuals, among whom Sir Joseph Banks and Mr. Beaufoy took the lead. Ledyard was sent to penetrate by way of Egypt, and Lucas by that of Tripoli. The former, who, with an iron frame, had travelled great part of the world on foot, excited great expectations; but unhappily a fever carried him off before leaving Cairo. Mr. Lucas, long vice-consul at Morocco, had the advantage of understanding perfectly the African languages. He found no difficulty in obtaining the concurrence of the Pasha of Tripoli; and had set out for Fezzan, but was arrested by an insurrection among the Arab tribes. Valuable information, however, was obtained from several intelligent natives, confirmed by the testimony of Ben Ali, a merchant, who happened to be in London, and had travelled far into the interior. From these sources pretty copious accounts were received respecting the great countries of Bornou and Cassina, the latter of which had become the chief among the states of Houssa. The informants described also a great caravan route across the continent, from Tripoli to Asiente or Ashantee, behind the Gold Coast. In this course it crossed the great central river, described, however, as flowing to the westward. It was, in fact, the Arabian Nile of the Negroes, the Quarrama of Clapperton, which in that direction proceeded to the main river, of which it is only a tributary. Rennell, having these materials put into his hands, and not being aware of any central river but one, reversed the direction given by D'Anville to the Niger, making it flow westward to the ocean by the channel of the Senegal. At the same time Bornou, understood to be described as bordering on Nubia, was carried far to the north and east of its real position, and the bordering countries displaced in consequence; so that this map, though ably drawn up, formed decidedly a retrograde step in African geography.

The Association now turned their attention to W. Africa, and engaged Major Houghton, for some time consul at Morocco, to proceed from the Gambia. He went on foot, imprudently loaded with a quantity of valuable articles. He passed unmo-

led through Médina and Rambouk; but on reaching the territory of the Moors, was seduced by that people into the desert, where he was either killed or abandoned to perish. (Proceedings of the African Association. London, 1790. Ibid. Lond. 1797.)

On receiving this intelligence, the Association lost no time in seeking a substitute, and were fortunate enough to engage Mr. Mungo Park. That gentleman, in December, 1795, set out from the Gambia, and passed through Médina, Bondou, Gallam, Kasson, and Kaarta. Having suffered on the way severe spoliation, he was seized and detained long in captivity by the Moors of Ludamar. He contrived to escape, and though in extreme distress, made his way through the kingdom of Bambarra to Sego, its capital. This formed a crisis in African geography, for he there saw 'the long-sought majestic Niger, glittering to the morning sun, as broad as the Thames at Westminster, and flowing slowly to the eastward.' The extent of the city, its crowded population, and the numerous canoes on the river, presented altogether a scene little expected in the heart of Africa. Mr. Park penetrated down the Niger as far as Silla; but his destitute condition, and the formidable accounts of the bigotry prevailing at Jenné and Timbuctoo, deterred him from proceeding farther.

This traveller's arrival in England in December, 1797, with accounts of such important discoveries, raised higher than ever the enthusiasm for African discovery. He retired into private life; but the Association obtained the services of Hornemann, a German, who possessed many requisites of a traveller. He went by way of Egypt to Fezzan, thence into central Africa, and appears to have penetrated by way of Cashna to Nyffe on the Niger, where he fell a victim to the climate. The same fate befell Mr. Nicholls, who attempted to reach the Niger by way of the Gulph of Benin. Some years before, Mr. Browne, an enterprising individual, by his own resources had penetrated by way of Egypt into the interior country of Darfour, about midway between Abyssinia and Bornou. He obtained there some important detached notices respecting the neighbouring nations, and the origin of the White River or main branch of the Nile, said to rise in the mountainous territory of Donga.

Meantime Park's mind was intensely bent upon Africa; and through his acquaintance with Mr. Maxwell, who had commanded a vessel employed in the Zaire or Congo, he became persuaded that that river was the termination of the Niger. Being invited by government to lead an expedition on a large scale, he readily accepted it, and its arrangements were adjusted with a view to his hypothesis. On the 4th of May, 1805, he departed from the Gambia, with a well appointed party of upwards of forty; but the harassing attacks of the natives, with the pestilential influence of the rainy season, reduced them to seven before they reached the Niger. He proceeded downward, however, and at Sansanding obtained materials for constructing a schooner, 40 feet long, which he named the *Joliba*; and on the 17th November, 1805, set sail to explore the mysteries of interior Africa. It appears that he passed Timbuctoo, and made his way down the river to Boussa, where the king of Youri, indignant at having received no presents, pursued with a large body of men, and attacked him in a narrow and rocky channel. Park and his companions, unable to resist, threw themselves into the water, attempting to reach the shore, but were drowned. His papers were never recovered.

A German named Röntgen attempted to penetrate by way of Morocco, and set out in 1809 from Mogadore; but he appears to have been murdered

by his guides. Some intelligence was gleaned from Adams and Riley, two Americans, who were successively shipwrecked on the coast of Sahara; but much uncertainty attached to their statements. In 1809, the association engaged the services of the celebrated Burkhardt, who undertook to accompany the interior caravan from Cairo. While preparing himself for the expedition he made excursions through Nubia, and also through Syria and Arabia, his observations on which have been published, and are extremely valuable. In 1817, however, when about to set out on his main destination, he fell a victim to dysentery.

The public mind continued to be intently fixed on African discovery; partly from a wish to learn the real state of countries so difficult to explore, and so different from those of the temperate zone, and partly, and perhaps principally, from absurdly exaggerated ideas as to the value of the commerce that might be carried on with the natives. At length government, on the suggestion of Sir John Barrow, determined to make a more extensive effort than ever. Following up the hypothesis of the identity of the Niger and Congo, two expeditions were prepared; one to ascend the latter river, another to descend the former. Captain Tuckey, who commanded the first, sailed from England in February, 1816, and arrived in June at the mouth of the Congo. The party proceeded for some time with great spirit; but being obliged by the cataracts to leave their boats, and proceed on foot through a rugged country affording little shelter, they became exposed to the baneful influence of the climate. Severe sickness soon assailing the whole party, obliged them to stop short, and ultimately proved fatal to all the officers, including the commander. The other expedition, destined to go down the Niger, was commanded by Major Peddie, who endeavoured to reach the interior through the country of the Foulahs. Having died before the march began, he was succeeded by Captain Campbell, who reached the Foulah frontier; but the sovereign, jealous of their designs, detained them under various pretexts, till exhausted supplies and general sickness obliged them to return. Immediately after Captain Campbell died, and his fate was shared by Lieutenant Stokoe, just as he had planned a new expedition. Captain Gray, of the Royal African corps, penetrated by another route to Gallam, but could not obtain permission to proceed through Bambarra.

All this series of disaster did not shake the perseverance of the British government. A new opening was afforded through the Pasha of Tripoli, who, inspired with a desire of improvement new in this quarter of the world, cultivated European connection, and influenced by the judicious conduct of consul Warrington, offered his assistance to the British government. Holding Fezzan tributary, and having a commanding influence over the central states, he could secure the safe passage of a traveller through a great part of Africa. Under his auspices, in 1819, Mr. Ritchie and Lieutenant Lyon reached Fezzan; but through the climate, and the treacherous ill-treatment of the sultan, they incurred such severe illnesses as proved fatal to the former, and obliged the latter to return.

This failure did not prevent the speedy formation of another expedition, for which a more fortunate destiny was reserved. Its chiefs, Major Denham, Lieutenant Clapperton, and Dr. Oudney, arrived at Tripoli in November, 1821. Next spring they proceeded to Fezzan; but through the neglect of the sultan were unable to procure camels, which obliged Denham to return to Tripoli. Here he received assurances of protection from Boo Khal-

loon, a great Arab slave-merchant, who was setting out for the very countries which he sought to explore. Under his guidance, the party, in the end of 1822, began their route through the great desert, passing between the territories of the two remarkable native tribes, the Turuicks and the Tibboos. They then travelled for a fortnight amid hills of moving sand, without the slightest vestige of life or vegetation. Soon after they entered Kanim, the northern province of Bornou. At Lari they came in view of Lake Tchad, the great interior sea of Africa, 200 miles long, receiving two great rivers, and containing numerous islands. In proceeding along its eastern shore they visited most parts of Bornou and its chief cities of Kouka (Kuku of Edrisi), New Birnie, and Angornou. This kingdom, once the most powerful in central Africa, had about thirty years before been conquered and dreadfully ravaged by the Fellatas from Houssa; but a private individual, by valour and ability, had reasserted its independence, and driven out the enemy. That person, under the title of Sheik, exercised all the real power, while he suffered the legitimate king to reign in empty pomp. Major Denham also visited the smaller kingdom of Mandara, bounded by an almost interminable range of mountains filled with savage tribes, who are hunted down for slaves. In Loggun, situated along the great river Shary, which falls into the Tchad, he found a people more ingenious and industrious than those of Bornou.

Meantime Clapperton and Oudney were making an expedition through Houssa, the most interesting region of central Africa. It was found inhabited by the Fellatas, a people having nothing of the Negro features, but apparently descended from the great body of Moslem Arabs, who had migrated many centuries ago. They were quite superior to the Bornonese both in aspect and character, cultivating the land with greater skill and diligence, and manufacturing very fine cottons. The sway of Ghana, and even of Cassina, had been transferred to Sackatoo (Tocurur), the sultan of which, about the beginning of the present century, overran all Houssa, and for some time occupied Bornou. Ghana, however, under the name of Kano, was found great in its decay, and still the chief seat of commerce. The transactions were extensive and well arranged; but slaves were the staple commodity. Sackatoo was found considerably larger than Kano, and the traveller was hospitably received by sultan Bello. The river Quarrama was observed traversing this country, and flowing westward into the Niger, which, at the nearest point to Sackatoo, had a southward course; but accounts varied, whether continuing in that direction it reached the sea, or making a great circuit emptied itself into the lake Tchad. The traveller, having in vain solicited the means of proceeding to the river and the coast, returned to Bornou by a new route, which enabled him to see Cassina, a capital now greatly decayed. Dr. Oudney died early on this journey.

The British government determined to follow up these extensive and important discoveries. Clapperton was employed to land on the coast of Guinea, thence to penetrate to Sackatoo, and on his way explore the termination of the Niger. Instead of attempting to ascend the river of Benin, he was advised to proceed by land from Badagry; but from imprudent exposure to the climate two companions died, and he became sickly. He soon, however, reached the Yarriba, or Kingdom of Eyes, which he found populous and flourishing; and the natives, not imbued with Mohammedan bigotry, courteously received him. In traversing it he crossed the chain of the Kong Mountains,

peopled to the summit. Leaving Yarriba, and passing through the large cities of Kiama and Wawa, he reached Bousse on the Niger, where he received a confirmation of Park's death, and even an invitation from the king of Youri, who promised to give him that traveller's books and papers; but this visit was delayed till he should return from Sackatoo. On his way thither he passed through Nyffe, a highly improved territory though dreadfully laid waste by the Fellatas; and through Zegzeg, also very populous and well cultivated. At Sackatoo, or Soccato, an expedition against the rebel territory of Goober enabled him to procure farther information. The sultan, however, prepossessed with groundless jealousies, treated him with a harshness, which, with previous sickness, brought this spirited traveller to a premature grave. His servant, Lander, after doing the last duties, conceived the plan of himself exploring the termination of the Niger, but was forcibly prevented.

The information attained on this journey afforded the strongest reason to suppose that the Niger terminated in the sea. Lander, on his return, submitted to government a plan for proceeding to Bousse, and thence navigating the stream downwards. The British Government agreed to furnish the means, though promising only a very slender reward. In March, 1830, accompanied by his brother, he arrived at Badagry, and proceeded by nearly the former route to Bousse. Thence he visited Youri, which proved a very rich and populous country; but the king treated him ill, and he had no success as to Park's books and papers. On the island of Pataashie, below Bousse, he procured, with great difficulty, two canoes, afterwards exchanged for one of larger size, and thus began the navigation down the Niger. He soon found it expand into a most magnificent river, about three miles broad, and bordered by noble forests. The large island of Zagoashie presented an active scene of industry and navigation, and by a large force of armed canoes maintained its independence of the neighbouring states. On the adjoining shore appeared a very large town, named Kabba. Farther down, Egga, another great port on the river, terminated the comparatively civilised territory of Nyffe; below which were only detached states of a very turbulent and lawless character, among which serious dangers were encountered. The next striking object was the influx from the westward of the great river Tshadda, three or four miles broad, and with a current so strong that they soon gave up the attempt to ascend it. They learned, however, that three days' journey up was Fundah, of whose importance they had often heard. It became more and more evident that their voyage was to terminate in the sea, and that the numerous river branches which open into the Gulph of Benin are the delta of the Niger. Near the large town of Kirree, they passed the one which runs towards Benin. Here the natives were almost entirely clothed in the manufactures of Europe, and had fleets of large canoes adorned with European articles. The travellers, however, were made prisoners, and carried down to Eboe, the great mart for slaves and palm oil, with which trade the natives, who are rude and dissolute, do not hesitate to combine piracy. With great difficulty, and the promise of a high ransom, they succeeded in getting arrangements made for conveying them to the sea. They reached it by the channel called by the Portuguese Nun, by the English Brass River; not the largest of the estuaries, but that which comes in the most direct line from the main trunk. Thus, by very humble agency, was solved that grand problem in African geography,

in the search after which so many abortive efforts had been made.

This important discovery, opening a water communication into the very centre of the continent, made a strong impression on the mercantile world. Mr. M'Gregor Laird, and some other gentlemen of Liverpool, entered into an association for forming a settlement and opening a trade on the Upper Niger. Two steamers, the *Quorra* and *Alburkah*, were fitted out; while the *Columbine*, a larger sailing vessel, was laden with goods. They arrived in the mouth of the Nun in October, 1832, but suffered severely from sickness amid the swamps of the delta; and though before the end of the year they reached a healthier station, the survivors did not regain their health. In the course of the next two years, Mr. Laird ascended the *Tshadda*, and reached *Fundah*, nine miles inland, which he found a large city, with nearly 40,000 inhabitants, situated in a very extensive and beautiful plain. Its commerce, however, had been much injured by war, and by the tyranny of its ruler, from whose power Mr. Laird had some difficulty in escaping. Mr. Oldfield in the *Alburkah* sailed about 100 miles up this river, but neither found its banks so fruitful nor the commerce so active as on the Niger. He also visited *Rabba*, which proved equally extensive with *Fundah*. The streets were crowded and dirty, but the markets spacious and well arranged. The state of the vessel frustrated the attempt to ascend to *Bouma*. *Lander* had unfortunately died of wounds received in a contest with the natives. The expedition was unfortunate in a commercial view, the only valuable article found being ivory, in too small quantity to pay the expense of the voyage.

From the southern extremity of Africa, interesting discoveries have also been made. It was not till 1650 that the Dutch formed a colony at the Cape of Good Hope, which quickly became flourishing. Beyond the Karroo desert they settled rich grazing farms, at the foot of the high interior ranges of the Nienweld and *Sneuwgebirge*, compelling the natives to labour as slaves. Towards the end of the eighteenth century, *Sparman* and *Vaillant* brought interesting accounts of the scenery of this tract, and its natural productions both animal and vegetable. The settlement having been captured by Britain, Mr. Barrow, as secretary to Lord Macartney, made in 1797 an excursion into the interior, and gave striking pictures of the pastoral life of the *Kaffres*, and of the miserable aspect and condition of the *Boesjemans* or mountain *Hottentots*. In 1801, *Messrs. Trutter* and *Somerville* passed the *Sneuwgebirge*, discovered the large stream of the *Orange River*, with the pastoral tribe of the *Koranas*, and finally arrived at *Lattakoo*, capital of the *Boshuanas*, a more industrious and improved people than any yet known in southern Africa. On receiving this intelligence, Lord Caledon sent Dr. Cowan and Mr. Donovan, with a party of twenty, to attempt to penetrate as far as *Mozambique*; but after proceeding considerably beyond *Lattakoo*, they were surprised and killed by a party of natives.

The Rev. Mr. Campbell, in his zealous pursuit of missionary objects, considerably extended our knowledge of this part of Africa. Beyond *Lattakoo*, he passed through a succession of towns always rising in importance. *Kurrechane*, the last, was estimated to contain 16,000 inhabitants, who, besides agriculture, showed considerable skill in adorning their habitations, tanning skins, and smelting iron and copper. Dr. *Lichtenstein* and Mr. *Burchell* made important observations on the *Boshana* people, but neither penetrated so far as

Mr. Campbell. In 1823, while Mr. Thompson was at *Lattakoo*, these districts were invaded by a numerous and formidable *Caffre* people, from the vicinity of *Cape Natal*. These, it was discovered, had been driven from their country by a still more powerful tribe, the *Zoolos*, whose chief, *Chaka*, could muster 100,000 fighting men. Yet there was found to be in that quarter a large extent of fertile territory, to which a number of Dutch farmers were induced to emigrate; but having been involved in hostilities with this savage tribe, they have of late suffered dreadfully, and many of them have perished.

During the years 1822 to 1826, Captain Owen was employed by the British government in making a very careful survey both of the eastern and western coasts. He obtained much information respecting the former, which had hitherto been very imperfectly known. In 1837, Sir James Alexander, under the auspices of the Geographical Society, performed an expedition to the north-west from the Cape, into the country of the *Damaras*, where he penetrated farther than any former traveller.

Within the last few years, a new and powerful impetus has been given to African exploration, which has resulted in most important discoveries. In the first place, the true nature of the interior has been ascertained beyond dispute. In the year 1852, Sir *Roderick Murchison* suggested the hypothesis that the interior of Africa was now, as in ancient geological periods, an immense watershed, occupied by fresh water lakes, outflowing to the east and west through fissures in the mountain ranges near the coast. This theory has been completely established by the discoveries of our most eminent African travellers. It is known to be true of the passage of the Niger, and Dr. *Livingstone* proved it to be the case in that of the *Zambesi*, whilst it received a fresh confirmation from the discoveries of *Burton* and *Speke*, and *Speke* and *Grant*, with respect to the sources of the Nile. The discovery of the latter is a most memorable one in African geography. It was in 1858 that Captain *Speke* first visited the *Lake N'yangá*. He subsequently made a second journey for the purpose of farther investigation; and in a memoir, in the *Journal of the Geographical Society*, he published a statement of the facts on which he grounds his conclusion that this lake is the great reservoir of the Nile. He says that it appears 'that all the drainage of the *N'yangá* must come down the channel of the Nile, unless perchance the *Sobat* might be the river alluded to by the Arabs and natives as "making *Usoga* an island." Should this not be the case, then the *Sobat* must be an independent river, draining all the mountain range north of *Mount Kenia* up to this parallel, and so to the eastward as far as possible the basin of the Nile is determined. Now to complete the western side of the basin of the Nile as far as possible, I must state as a positive fact, the Nile at *Gondokoro* is the parent or true Nile. No explorers on the Nile, of the present time, doubt that for a moment; and all those—there are many—who have recently directed their attention to the discovery of the source of the Nile, have invariably looked for it south of *Gondokoro*. This matter established,—as on the east the only affluent to the Nile worthy of any notice was the *Asua* river, and that was so small it could not have made any visible impression on the body of the Nile,—leaves only the *Little Luta Nzige* to be discussed, for the rest of the land included in the basin of the Nile is drained into the Nile north of *Gondokoro*. Information assures me, that as the *Malagarazi* and *Ruzizi* rivers drain the southern

side of the mountains encircling the Tanganyika, so do the Kitangulé and Little Luta Nzige drain the north side of those mountains; and this, I think, is proved by the fact, that the Nile at Gondokoro was not so large as the Nile was in Unyoro during the flood. For this reason also I feel very sure the Little Luta Nzige of itself, if it was not supplied by the Nile as a backwater, would be nothing more than a flat rush-marsh, like the Bahr-el-Ghazal.

Dr. Livingstone, in his exploration of the Zambesi, has not only contributed largely to geographical science, but it may be hoped that his exertions will ultimately prove most useful in the cause of humanity. He proposes a chain of stations beyond the Portuguese territory on that river, as a means of facilitating commercial communication with the natives. Some of the races in the vicinity are anxious to engage in trade, and the country is suitable for cotton. He believes that it is only by encouraging industry in this way, in connection with missionary labours, that real good will be done to Africa. We owe to him the discovery of Lake N'gami, and he has but recently returned from explorations of the Shiré river—an affluent of the Zambesi—and Lake Nyassa.

Dr. Barth's researches in north Africa are well known as placing him on the list of illustrious African travellers. Captain Burton is not only distinguished for his discovery of the Tanganyika Lake, and his explorations in western equatorial Africa, but for his valuable observations on the ethnology and condition of the east African races. M. Paul du Chaillu, during his travels in equatorial Africa, made some most important investigations in connection with the river Ogobai; and has also greatly enlarged our knowledge of the animals of Africa, particularly introducing to us that wonder of natural history, the Gorilla. Anderson, Petherick, Galton, Krapf, Rebmann, Von Decken, and many other names occur in the history of African exploration, in which field so much zeal and heroism have of late been displayed. Von Decken ascended the Kilimandjaro to a height of 18,000 feet, and there witnessed a fall of snow, thus establishing by personal observation the fact announced by Krapf and Rebmann of snow-capped mountains under the equator.

But after all that has been done, there still remain interesting points to settle, which will afford abundant stimulus to the exertion of new explorers.

AFRICA, or **MAHADIAH**, a sea-port town of Barbary, E. coast reg. Tunis, 110 m. SSE. Tunis, lat. 35° 32' N., long. 11° 16' E. It contains about 8,000 inhab., and is at present a wretched place, surrounded with broken-down walls, and without shops or bazaars. Formerly it was a sea-port and fortress of very considerable importance. In 1550 it was besieged by a powerful armament, under the orders of the viceroy of Sicily and of Doria the famous admiral of Charles V., who took it after an obstinate and desperate resistance; but being found to be untenable it was subsequently abandoned.

AGADES, a town of central Africa, cap. of Air, or Asben, in lat. 16° 40' N., long. 7° 30' E. Est. pop. 8,000; formerly 50,000. It is still an important *entrepôt* of the interior commerce of central Africa.

AGADIR, or **SANTA CRUZ**, a sea-port town of Morocco, on the Atlantic Ocean, and the most S. in the empire, lat. 30° 26' 35" N., long. 9° 35' 56" W. It is built on the declivity of a hill on the shore of a gulph or large bay of the same name, well defended from the winds, and affording good anchor-

age for shipping. Agadir belonged at one time to the Portuguese, by whom it was surrounded by walls. It was taken from them by the Moors in 1586, when its fortifications were farther strengthened. It was for a considerable period the centre of an extensive commerce; but having rebelled against the government in 1778, the principal part of its population was transferred to Mogadore. The vast sandy deserts of N. Africa commence immediately to the S. of Agadir; and hence its bay is aptly termed by the Arabs *Bab-Soudan*, that is, *Gate of the Blacks*.

AGDE (an. *Agatha*), a town of France, dep. Hérault, on the river of that name, near where it is traversed by the canal of Languedoc, about 8 m. above where the former falls into the Gulph of Lyons, and about the same distance from where the latter is united with lake Thau. Pop. 9,746 in 1861. Ships of 200 tons burden come up to the town by the river, near the mouth of which is fort Briscou. It has a considerable coasting and some foreign trade, with ship-building, manufactures of verdigrise and soap, and distilleries. Being entirely built of black basaltic lava, and surrounded by a wall and towers of the same material, it has a grim appearance, and is called by the country people the *Ville Noire*. It made a part of *Gallia Narbonensis*, and was in 506 the seat of a council summoned by Alaric.

AGEN (an. *Aginum*), a town of France, cap. dep. *Lot-et-Garonne*, on the right bank of the Garonne, on the railway from Bordeaux to Toulouse, Pop. 17,263 in 1861. The town is ill built; streets narrow, crooked, and dirty. The hotel of the prefect is worthy notice, and there is a fine bridge over the Garonne of eleven arches. It is the seat of a *cour royale* for the depts. Lot-et-Garonne, Lot, and Gers; has a college and several literary institutions, a public library with above 12,000 vols., and a theatre. Its situation, though rather unhealthy, makes it the *entrepôt* of the commerce between Bordeaux and Toulouse. There is here a sail-cloth manufactory, which recently employed above 600 work-people, and produced annually 180,000 metres of canvass for the navy: there are also manufactures of serges, printed cloths, cottons, braziers' ware, pottery, soap, and spirits. Environs beautiful; the *promenade du Graviers* is one of the finest in France. The town is famous as the birthplace of Jasmin, 'last of the Troubadours,' who kept a hairdresser's shop in the High Street till the time of his death, in 1864. Agen is very ancient, and under the Roman emperors was a pretorian city.

AGGERHUUS, a bishopric of Norway, and one of the most important divisions of that kingdom; which see.

AGGERSOE, a small Danish island in the Great Belt, near the E. coast of the island of Zealand, lat. 55° 12' N., long. 11° 12' E.

AGHRIM, or **AUGHRIM**, an inconsiderable town of Ireland, co. Galway, 82 m. W. Dublin. Pop. 883 in 1861. One of the greatest battles ever fought in Ireland took place in the vicinity of Aghrim in 1691, when the troops of William III., commanded by Ginkell, afterwards Earl of Athlone, gained a complete and decisive victory over those of James II., commanded by St. Ruth, who fell early in the action.

AGINCOURT, or **AZINCOURT**, a village of France, dep. *Pas de Calais*, 13 m. NW. St. Pol. Pop. 438 in 1861. The place is famous in history for the great victory gained near it in 1415 by the English monarch, Henry V., over a vastly superior French force.

AGLIE, or **AGLIA**, a town of North Italy, prov. Turin, 10 m. SW. Ivrea. Pop. 3,321 in

1861. It has a collegiate church, and a magnificent palace with a considerable library.

AGNES (ST.), one of the Scilly Islands being the most S. of the group. It contains about 800 acres, and had in 1831 a pop. of 289, and 200 in 1861. It is celebrated for its light-house with a revolving light, in lat. $49^{\circ} 53' 37''$ N., long. $6^{\circ} 19' 23''$ W. The lantern is elevated 138 feet above high-water mark.

AGNONE, a town of South Italy, prov. Campobasso, 18 m. NNE. Isernia, in an elevated healthy situation. Pop. 10,320 in 1861. It has an immense number of churches, an hospital, and five *monts-de-piété*, which make loans of seed corn to the peasants. It is the seat of the principal copper manufactures in the kingdom. Some writers have affirmed that it occupies the site of the ancient *Aquilonia* of the Samnites.

AGO DE PAO, a sea-port town of St. Michael, one of the Azores, 12 m. E. Ponta del Gada; near a mountain peak of the same name, 3,066 feet high.

AGON, a small sea-port town of France, dep. La Manche, 7 m. W. Coutances. Pop. 1,605 in 1861.

AGOSTA, or AUGUSTA, a maritime town of Sicily, cap. cant., prov. Catania, on its E. coast, 12 m. N. Syracuse, lat. $37^{\circ} 18' 35''$ N., long. $15^{\circ} 14'$ E. Pop. 9,735 in 1868. It stands on a peninsula, and was built in the 13th century by the emperor Frederick, who peopled it from Centurise, which was razed for sedition. It was nearly destroyed by the earthquake of 1693, when numbers of people were crushed to death under the ruins of their houses, and a sulphurous vapour finding its way to the principal powder magazine, it blew up with a tremendous explosion. A similar misfortune occurred in 1848. Streets regular and parallel, with some tolerable municipal edifices and magazines for articles of commerce; but the houses are low and mean, and the inhabitants have an air of dejection and poverty. Their whole existence depends on the export of salt, and a little oil, honey, and wine. It is strongly fortified both on the land and sea sides. The harbour, though rather difficult of entrance, is deep, spacious, and secure; but in E. and S. gales there is often a heavy swell. The holding ground is excellent.

AGRA, one of the *subahs*, great divisions, or provinces into which Hindostan, or India N. of the Nerbuddah River, was divided by the emperor Akbar. It lies chiefly between 25° and 28° N., and may be computed to contain about 45,000 sq. m., and from 6 to 7 millions of inhabitants. These *subahs* or provinces of the Mogul empire were in fact equal in extent and population to kingdoms. The province of Agra lies in the alluvial plain of the Jumna and Ganges, with an elevation but a few hundred feet above the level of the sea; and the finest portion of it, well known under the name of the Doab, or country of the 'two rivers,' lies between these streams. By far the greater portion of its surface is a dead flat. Although watered by three great navigable rivers, the Chumbul, Jumna, and Ganges, the country is characterised in general for its drought, the greater part of its irrigation being effected by means of deep wells. It may also be described as eminently deficient of timber. From March to June the climate is dry, and extremely sultry; from June to October, sultry and rainy; and from November to February inclusive, serene, dry, and cold, the thermometer almost every morning falling below the freezing point. With the exception of a few woody portions of the province lying towards its W. extremity, and here only during the season of the periodical rains, the climate is healthy. No metallic mines exist in the province; and its only

valuable minerals are the red sandstone, of which nearly all the monuments of the cities of Delhi and Agra are constructed; and a species of tufous limestone, called *kanghar* in the language of the country, and which is the only source from which lime is obtained for economical purposes. There are commonly two harvests: the greater crops being reaped before the setting in of the rains in May and June, and the lesser in December and January. The principal corn crops are those of wheat and barley. Rye is not known, and oats hardly so, and rice is not cultivated for want of a sufficiency of water. Of the smaller kinds of corn, those chiefly cultivated are two species of millet, viz. *Holcus Sorghum*, called in the language of the country *Jewar*; and *Holcus spicatus*, called *Bajera*. These two constitute the chief bread corn of the labouring people, who seldom taste wheat. Great quantities of pulses are raised as a winter crop for the food of man and cattle, the most common of which is the *Cicer arrietum*, called grain by Europeans. Mustard seed is raised for oil, and the sugar cane is cultivated for the manufacture of sugar. Cotton is cultivated to a very considerable extent, and indigo is produced more extensively in this province than in any other part of Upper India. It was, indeed, from hence that the drug, in the earlier periods of European commerce, was procured for the trade of Europe. The great mass of the inhabitants are Hindoos; among whom the two first classes in rank, the Brahminical and Military, are more frequent than to the eastward, or to the south. To the W. of the Jumna, chiefly are found two nations or tribes well known in the history of Upper India, the Jauts and the Mematties, both distinguished by their warlike and predatory habits. It is remarkable of a country so long subject to Mohammedan rule, and the immediate seat of power, that the proportion of Mohammedans found in this, as indeed in the neighbouring provinces, is smaller than in the more remote one of Bengal. The inhabitants, of whatever denomination, are of more robust frames and a far bolder spirit than those of the last-named country. The language of the people throughout is the Hindi or Hindustany. The basis of this language is the Hindoo dialect, which was spoken in the kingdom of Kanoje, which is within the limits of this province, on the first Mohammedan invasions.

AGRA, the name of a zillah, or district, constituting a judicial and fiscal division of the last-named province, lying on both banks of the Jumna. Its computed area is 4,500 Eng. sq. m.; and if it be equally populous with the neighbouring province of Delhi, of the population of which some estimate has been made, and it is probably somewhat more so, it contains 273 inhabitants to the square mile, or near one million of absolute population. In 1818, ten years after this district came into British possession, it was estimated to contain 2,456,214 begahs of land, each equal to near one third of an English acre, of which there were under actual culture 1,222,667; fit for culture 880,807; and waste or uncultivable 902,740. Half the area of the whole district, therefore, was under actual tillage. The land tax as assessed to the land under culture was at the rate of two rupees and two annas a begah, or near 13s. an acre; a very high or rather oppressive land tax, for a poor country just recovering from long disorder and anarchy.

AGRA, a city of Hindostan, cap. of the above province and district, on the SW. bank of the Jumna, which during the season of the floods is here about half a mile broad, and at no season fordable; in lat. $27^{\circ} 11'$ N., long. $77^{\circ} 58'$ E. It is

distant from Calcutta 950 m., Madras 1190, and Bombay 850, and is connected by railway with Calcutta, Benares, and Delhi. The present population is estimated at between 70,000 and 80,000. It is of considerable extent, and has now handsome houses for European officers, subscription-rooms, churches, fort and arsenal. The town is very conveniently situated for the commerce of W. India and E. Persia, and is the mart of a very considerable inland and frontier trade. The trading communication is, besides the chief medium of intercourse, the railway, carried on by boats on the Jumna and Chumbul, and by horses, camels, bullocks, and bullock carts by land. The goods comprising the imports consist of shawls, horses, camels, rock-salt, and the dry and fresh fruits and drugs of Persia, cotton wool and coarse cotton fabrics from the S., with European commodities by the Jumna and Ganges. The chief exports consist of raw silks, indigo, and coarse sugar. Agra, in remote times, appears to have been a fortified town of some consequence; but it was not until the year 1504 that it was made the seat of Mohammedan empire. This was effected by the Afghan emperor Sihundur Lodi. About half a century later the place was greatly embellished by Akbar, by far the most illustrious of all the Indian emperors. It continued to be the seat of government during his reign and that of his son; and Delhi was not restored as the metropolis until the reign of his grandson, Shah Jehan, in the year 1647. When Akbar fixed the seat of his government at Agra, he changed its name to Akbarabad, which continues to be its Mohammedan designation. It contains many fine monuments, all of Mohammedan origin. The fortress is of great extent, the double rampart and bastions being built entirely of hewn red sandstone, and at least 60 feet above the level of the Jumna, on the bank of which it stands. The most remarkable structure, however, is the Taj Mahal, literally the 'Crown of Empires.' This stands about 2 m. below the fortress, and on the bank of the river. It is a mausoleum, built by the emperor Shah Jehan in honour of his empress the Begum Narr Mahal; a building of white marble raised on a terrace, and in the ordinary form of a Mohammedan mosque with minarets. The mosaic ornaments of the interior, including even the marble pavement, are extensive, rich, and elaborate, the flowers and arabesques being composed of no less than twelve different stones, such as agates, jaspers, lapis lazuli, and various coloured marbles, and the numerous quotations from the Koran being in black marble. A garden with fountains and highly ornamented gateways surrounds the mausoleum, and the *toute ensemble* is supposed, whether for extent, symmetry, *matériel*, or execution, to surpass any thing in the world of the same description. This is the uniform opinion, even of those who have seen the master-pieces of Italian art. 'It is possible,' says the celebrated and accurate Bernier, 'I may have imbibed an Indian taste; but I decidedly think that this monument deserves much more to be numbered among the wonders of the world than the pyramids of Egypt,—those unshapen masses, which, when I had seen them twice, yielded me no satisfaction, and which are nothing on the outside but heaps of large stones piled in form of steps, one upon another; while within there is very little that is creditable either to human skill or to human invention.' The architect was a Mohammedan native of Sahar, and the whole building is said to have cost 750,000*l*. It is kept in excellent repair by the British government, which assigns a handsome annual revenue for this object. The tomb of the emperor Akbar,

at Secundra, 6 m. from Agra, would be considered a splendid building in any place that had not the Taj Mahal to boast of. It was constructed by his son, the emperor Jehanghire. A marble palace of Shah Jehan exists within the fortress; and the neighbourhood of the town for miles contains the ruins of palaces and tombs of costly materials and workmanship. Agra, with the district to which it belongs, was conquered by the chief Madhaje Sindiah in 1784, and formed a portion of the jagheer assigned by this prince for the maintenance of the army, organised on the European system, and officered by Europeans, by means of which he maintained his supremacy in Upper Hindostan. In the course of the military operations which deprived the Mahrattas in 1803 of nearly the whole of their possessions in Hindostan, Agra was besieged by Lord Lake, and surrendered after a practical breach had been effected in one of the bastions. Since that time it has continued in British occupation. The fortress has always a considerable garrison, and about two miles beyond its walls is a cantonment where a much larger military force is stationed. There are several modern buildings, including the English and Oriental College, the Metcalfe Testimonial, and the Government House. Agra was the birth-place of Abul Fazel, the famous prime minister of the emperor Akbar.

AGRAM, or ZAGRAB, a fortified city of the Austrian empire, cap. Croatia, and the residence of the governor-general, on a hill on the banks of the Save; lat. 45° 49' 2" N., long. 15° 4' E. Pop. 16,657 in 1857. Agram is the seat of a bishopric and of a tribunal of appeal for Croatia, the Bannat, and Slavonia. It has a superior academy, a gymnasium, a Franciscan convent, a considerable commerce, particularly in the tobacco and corn of Hungary, and manufactures of silks and porcelain.

AGREDA, a walled town of Spain, prov. Soria, at the foot of Mount Cayo, celebrated by Martial. Pop. 3,120 in 1857. The town is ill built, has 6 churches and 4 convents, with tanneries and potteries.

AGREVE (ST.), a town of France, dep. Ardèche, cap. cant. Pop. 3,133 in 1861.

AGUAS CALIENTES, a town of Mexico, prov. Guadalajara, 100 m. NE. Guadalajara; lat. 22° N., long. 101° 45' W. Est. pop. 20,000. The town is situated in a fertile district, has a fine climate, and is one of the handsomest of the Mexican towns. Being intersected by several great roads, it has an active and considerable commerce. It is celebrated for the hot springs in its vicinity, whence it derives its name.

AGUILAR DE LA FRONTERA, a town of Spain, prov. Cordova, 22 m. SSE. Cordova. Pop. 11,836 in 1858.

AGUILAR DEL CAMPOS, a town of Spain, prov. Valencia, on the Pisuerga, 40 m. NW. Burgos. Pop. 1,026 in 1858.

AHANTA, a rich well wooded territory on the Gold Coast of Africa, between the rivers Ancobia and Suberin. It has gold mines.

AHMEDABAD, a town of Hindostan, presid. Bombay, prov. Gujerat, cap. district of same name, on the navigable river the Sabermatty. Lat. 22° 58' N., long. 72° 37' E. Estim. pop. 130,000. About the middle of the 15th century it was a flourishing city celebrated for the magnificence of its mosques, palaces, and streets; but it has since fallen greatly to decay. It is surrounded by a high wall flanked with towers; and is a great resort of itinerant players and poets. It suffered severely from the plague in 1812, and from an earthquake in 1819. The district of which Ahmedabad is the cap. contains 4,356 sq. m. and an

AHMEDPORE

estimated pop. of 650,220. The town is the headquarters of the north division of the Bombay army, and has a railway to Bombay.

AHMEDPORE, a town of Hindostan, prov. Orissa, 11 m. S. Juggernaut.

AHMEDNUGGER, a city and fortress of India, presid. Bombay, prov. Aurangabad, cap. district of same name, on the river Seena, 70 m. NW. Poonah; lat. $19^{\circ} 5' N.$, long. $74^{\circ} 55' E.$ The town, founded in 1493, is enclosed by a stone wall, and has a handsome market-place and some pretty good streets. At present it is the head station of a civil establishment, and has about 20,000 inhab. exclusive of the garrison. The fortress, a little way from the town, is oval shaped, and about 1 m. in circ.: it is built entirely of stone and is surrounded by a broad and deep ditch. It surrendered to General Wellesley (Duke of Wellington) in 1803.

The district or collectorate of which Ahmednuggur is the cap., contains an area of 9,910 sq. m. with a pop. of about 990,000.

AHMOOD, a town of Gujerat, 20 m. N. by W. Broach; lat. $22^{\circ} 3' N.$, long. $73^{\circ} 6' E.$

AHRWEILER, a town of Prussia, prov. Lower Rhine, cap. arc., on the Ahr, 23 m. WNW. Coblenz. Pop. 3,709 in 1861. The town has manufactures of cloth and tanneries.

AHUN, a very ancient town of France, dep. Creuse, cap. cant., 10 m. SE. Gueret, on a mountain at the foot of which flows the Creuse. Pop. 2,300 in 1861. There are coal mines in the neighbourhood.

AHWAZ, or **AHWUZ**, a town of Persia, prov. Kuzistan, on the Karoon, 48 m. S. Shuster. In former times this was a large and flourishing city, cap. prov. of same name, and the winter residence of the Persian kings. It is now a wretched place, with 600 or 700 inhabitants. Some ruins of the old city are still to be seen. Of these the most worthy of attention are the remains of a bridge over the river, and of a royal palace. The portion of the wall of the latter now standing is built of large blocks of hewn stone, and is about 800 feet in length, and 14 or 15 feet high. A little below Ahwaz, at the deserted village of Sabla, are the remains of a remarkable mound or dam made across the river to procure water for the irrigation of the surrounding country. (Kinneir's *Per. Emp.* p. 89.)

AIAS, or **AJASSO**, a ruined sea-port of Asiatic Turkey, on the N. shore of the gulf of Iskenderoon.

AICHACH, or **AICHA**, a town of Bavaria, circ. Upper Danube, on the Baar, 12 m. ENE. Augsburg. Pop. 1,950 in 1861. Near the town are the ruins of the ancient castle of Wittelsbach, from which the rulers of Bavaria derive their name.

AIGLE, a town of Switzerland, cant. Vaud, cap. dist. same name, on the torrent Grande-Eau, near the Rhone. Pop. 2,582 in 1860.

AIGLE (L'), a town of France, dep. Orne, cap. cant., on the Rille, 18 m. NNE. Mortagne. Pop. 5,454. Though old and surrounded by the remains of old walls, it is well built, neat, and clean, and is distinguished by its industry. The needles and pins manufactured here are celebrated all over France, and it has also fabrics of iron and copper wire, wire-gauze, and nails. It has withstood several sieges.

AIGNAN (ST.), a town of France, dep. Loire et Cher, cap. cant., 24 m. S. Blois. Pop. 3,600 in 1861. There is in the vicinity the only quarry of gun-flints in France. The quantity annually manufactured is estimated at from 35,000,000 to 40,000,000. Those for the use of the army are kept in dépôt in the castle of Amboise. The town has manufactures of cloth.

AIN

AIGRE FENILLE, a village of France, dep. Charente Inférieure, cap. cant., 13 m. NNE. Rochefort. Pop. 1,812 in 1861.

AIGUE PERSE, a town of France, dep. Puy de Dôme, cap. cant., 11 m. NNE. Riom. Pop. 2,697 in 1861. Near it is the Château de la Roche, the birthplace of the Chancellor de l'Hôpital. The town has manufactures of cloth and mineral springs.

AIGUES MORTES, a town of France, dep. Gard, cap. cant., 20 m. SW. Nismes; lat. $43^{\circ} 38' 58'' N.$, long. $4^{\circ} 11' 22'' E.$ Pop. 3,865 in 1861. Though now about 4 m. inland, Aigues Mortes was formerly a sea-port, and was, in fact, the place where St. Louis embarked on his two expeditions to Africa. At present it is connected with the sea by a canal, which is prolonged to Beaucaire on the one hand, while it is united on the other with that of Languedoc. It is fortified, and, from its position, is an important post for the defence of the coast. Owing to the retrogression of the sea, the town is surrounded by marshes (whence its name *Aqua Mortua*), and is very unhealthy. The salt lake of Peccais, in the neighbourhood, is celebrated as well for the quality as for the quantity of the salt obtained from it.

AIGUILLE (L'), a celebrated mountain in France, dep. Isère, 4 m. NW. Corps, height 2,000 mètres, or 6,565 feet. Its under part has the appearance of a truncated cone, and its upper part is of a cubical form. It was long supposed to be inaccessible, and was hence called *Mons Inaccessus*; but in 1492 an officer of Charles VIII. reached its summit.

AIGUILLON, a town of France, dep. Lot et Garonne, at the confluence of the Lot and the Garonne, 17 m. NW. Agen. Pop. 3,781 in 1861. It was unsuccessfully besieged by John duke of Normandy in 1345; when, it has been said, but incorrectly, that cannons were first made use of.

AIGURANDE, a town of France, dep. Indre, cap. cant., 12 m. SW. Châtre. Pop. 2,146 in 1861. It is the centre of an extensive cattle trade; and has, or had, an octagonal monument, believed to be very ancient, but of which the object is unknown.

AILSA, an insulated rock in the Frith of Clyde, 10 m. W. Girvan. Its base is elliptical, and it rises abruptly from the sea to the height of 1,098 feet. It consists of columnar trap. The NW. side is almost perpendicular, being formed of successive tiers of immense columns. It is frequented by innumerable flocks of sea fowl, and is a very striking object from every part of the Ayrshire coast. It gives the title of marquis to the noble family of Kennedy.

AIN, a frontier department in the E. of France, having the Rhone, which separates it from Savoy on the E. and S., the Saone on the W., and the depts. of Saone et Loire, Jura, and part of Switzerland, on the N. and NW. Area 592,674 hectares. Pop. 870,919 in 1861. Exclusive of the Rhone and Saone, by which it is partly bounded, it is divided by the Ain, whence it derives its name, into two nearly equal parts; that to the E. being rugged, mountainous, and principally adapted to pasturage; whereas that to the W., though in parts marshy, is generally level and fit for cultivation. There are in the SW. portion of this dep. a great number of lakes or ponds, some of which are subjected to a very peculiar species of rotation. It is usual to drain and cultivate them for a season; and when the crop has been gathered they are again filled with water, and with different sorts of fish, according to the nature of the pond; and after being occupied in this way for two years, or thereabouts, are again dried and

subjected to the plough. The extent of the ponds so employed is estimated at nearly 16,000 hectares. This is found to be a very profitable species of cultivation; though, from the humidity it occasions, it is said to render the climate unhealthy. Oxen, of which large numbers are bred, are generally used in tillage. Produce of corn crops sufficient for the consumption. Vintage considerable, three-fifths of the produce exported. Woods very extensive, amounting to about 120,000 hectares. Near Belley are produced the best lithographic stones in France. Manufactures inconsiderable. Great numbers of the inhabitants emigrate annually after harvest to seek for employment in the contiguous departments. Chief towns Bourg, Nantua, Trevoux, Belley, and Gex. But the most celebrated place in the dep. is Ferney, long the residence of Voltaire.

AIN-TAB, a large town in the N. of Syria, on the S. slope of the Taurus; lat. $36^{\circ} 58' N.$, long. $37^{\circ} 13' 15'' E.$; 70 m. N. Aleppo, and 80 m. W. Bir, on the Euphrates. Pop. has been estimated at 20,000, which, if the town be two-thirds the size of Aleppo, as stated by Maundrell (Journal, 210), can scarcely be considered as exaggerated. The inhabitants consist of nearly equal numbers of Armenian and Greek Christians, Kurds, and Mohammedans, among whom a spirit of toleration and unity prevails unparalleled in most other Eastern societies. They use the Turkish language. Houses were built of a fine stone resembling porphyry, flat-roofed, and generally of only one story. There are five mosques, and several large and well supplied bazaars. In the centre of the town is a castle on a mound, resembling, in every respect, that of Aleppo, but much smaller. Water abundant, many of the streets having streams flowing through them. On the S. is a large burial ground, which at a short distance resembles an important suburb, and is perhaps not much inferior in extent to the town itself. Manufactures of goat-skin leather, cotton, and woollen cloths, are carried on to some extent; and there is some trade in raw and tanned hides, cloth, honey, and tobacco.

Ain-Tab may be regarded as the capital of a limited but very fine country, consisting of small hills and valleys among the roots of the Taurus. The towns and villages in this little district are very numerous, the most important being Adjia, Silam, and Klea. At Adjia, 6 or 7 m. distant, is the source of the Koeik (the river of Aleppo); and within 10 yards of this stream there runs another, the Sejour, the banks of which are thickly set with trees and villages. The Sejour has a good bridge over it, about $2\frac{1}{2}$ m. from Ain-Tab. The air is good and the soil fertile; but cultivation is not much followed, the majority of the rural population being shepherds. Principal agricultural products corn and tobacco. Bees are very plentiful.

Ain-Tab was taken and plundered by Timour Bec in 1400; but its favourable site and the tolerant spirit of its inhabitants have kept the district remarkably free from the usual Eastern casualties. The Turkish pachas, notorious as they are for exaction and oppression, respect the homes and rights of these hardy mountaineers. They have, indeed, been taught this forbearance by some severe lessons, having experienced, in every attempt at tyranny and extortion, a firm and successful resistance. The last of these attempts was made in 1780, when the Turkish forces were completely defeated; since which the men of Ain-Tab and its vicinity have been suffered to enjoy the produce of their fields, flocks, and bees, in undisturbed tranquillity. According to Maundrell, Ain-Tab is iden-

tical with the *Antiochia ad Taurum* of the ancients; but this is doubtful.

AIRDRIE, a royal and parl. bor. and m. town of Scotland, co. Lanark, pa. New Monkland, on rising ground between two little rivulets, 11 m. E. Glasgow, on the railway from Edinburgh to Glasgow. Pop. of parl. bor. in 1841, 12,408, and 12,922 in 1861. The town consists principally of two parallel streets joined by cross streets. It has a handsome town-house, and the houses of the labouring population are well built and comfortable. In the early part of last century Airdrie contained only one solitary house. It owes its rapid rise to the coal and iron mines in its immediate vicinity, and to its contiguity to the Monkland canal and the Garnkirk railway. The Calder and other great iron works in the neighbourhood employ a number of hands; and within the town there are iron foundries, at which machinery is made, with distilleries, breweries, malt barns, &c. The weaving of cotton goods on account of the Glasgow manufacturers has hitherto, however, been the principal source of employment; and it has, also, a cotton factory. It is divided into two parishes; and besides the churches attached to them, it has sundry chapels in connection with the Free Church and the different classes of dissenters; with various schools and charitable institutions. It is governed under a charter of 1833, by a provost, three bailies, and twelve councillors. Burgh revenue, 1863-4, 2,700*l.* The Reform Act united Airdrie with Hamilton, Lanark, Falkirk, and Linlithgow in the return of a member to the H. of C. Parl. and municip. const. 389 in 1864. Annual value of real property in 1862-3 (railways not included), 12,241*l.*

AIRE, a river of England, important from its navigation and the numerous canals with which it is connected. It rises in Yorkshire in the central mountain ridge, a little to the E. of Settle. It pursues a SE. course, till passing Leeds it is joined by the Calder at Castleford; its course is thence E., with a good many windings, till it falls into the Ouse, a little above Goole. From Leigh to Ferrybridge the Aire flows through one of the richest plains in the kingdom.

AIRE (an. *Vicus Julii*), a city of France, dep. Landes, cap. cant., on the Adour, 80 m. SSE. Bordeaux. Pop. 1,960 in 1861. This is a very ancient city, and has been since the fifth century the seat of a bishopric. The Goths became possessed of it in the sixth century, and it was for some time the residence of Alaric II. It suffered much in the wars with the English, and still more in the religious contests of the sixteenth century. The fortifications by which it was once surrounded have now wholly disappeared. It is pretty well built, has a cathedral, a college, and a secondary ecclesiastical seminary. A bridge has been built over the Adour.

AIRE, a fortified town of France, dep. Pas de Calais, cap. cant., at the confluence of the Lys and Laquette. Pop. 4,864 in 1861. It is pretty well built; has several public fountains; with manufactures of linen, hats, soap, Dutch tiles, Geneva, &c. In a military point of view, it is of considerable importance for the defence of the country between the Lys and the Aa.

AIRVAULT, a town of France, dep. Deux Sevres, cap. cant., on the Thoué, 15 m. NNE. Parthenay. Pop. 1,735 in 1861. The town is well built, and has the remains of an old castle and monastery destroyed in the sixteenth century.

AISNE, a dep. in the north of France, between $48^{\circ} 50'$ and $50^{\circ} 4' N.$ lat., and $2^{\circ} 56'$ and $4^{\circ} 12' E.$ long.; the principal town, Laon, in its centre, being 75 miles NE. Paris. Area, 728,530 hectares.

Pop. 564,597 in 1861. The department is traversed by the Aisne, whence its name, the Oise, Marne, and by several canals. Surface generally flat or undulating, but in parts hilly; soil fertile. The cultivated land amounts to about 500,000 hectares, about 100,000 being occupied with woods, and 42,000 with meadows. Agriculture good; and after providing for the inhabitants there is a large export of corn, as well as of sheep, oxen, horses, and pigs. It also produces flax and hemp, hops, grape, beet root, potatoes, &c. In the southern part wine is made; but the ordinary drink of the inhabitants is wine and beer. This dep. is celebrated for its manufactures, at the head of which must be placed the cottons, laces, lawns, shawls, table linen, &c. of St. Quentin; the mirrors of St. Gobain; and the bottles, of which Folambry furnishes about 3,000,000 a year for the wines of Champagne. It has also cast iron and iron plate foundries, brick and tile works, manufactures of chemical products, and of beet-root sugar, bleach fields, &c. It is divided into five arrond., 37 cant. and 837 comm. Chief towns, Laon, St. Quentin, Soissons, Châteaun-Thierry, and Vervins.

AIX, an ancient city of France, dep. Bouches du Rhône, cap. arrond. and cant., formerly cap. Provence, in a plain at the foot of some hills, 16 m. N. Marseilles, on a short branch of the railway from Lyons to Marseilles. Pop. 27,659 in 1861. The town was founded by Caius Sextius Calvinus, a Roman general, 120 years B.C., and received the name of *Aqua Sextæ*, from its famous hot springs. It is a well-built handsome town. Streets generally well paved, wide and clean. It has a beautiful promenade, and some good squares, ornamented with fountains. A side of one of the squares is formed by what is called the *Palais*, an old building containing some spacious halls, formerly occupied by the parliament of Provence and other public bodies. It has also a town-hall, containing a valuable collection of antiquities, a magnificent cathedral, a museum of pictures, a theatre, and other public buildings. Previously to the Revolution, Aix was the seat of a university; and at present it has an academy equivalent to a university, with faculties of theology and law, and a valuable library containing above 100,000 vols. It is also the seat of a *cour imperiale* for the depts. of the Bouches du Rhône, Basses Alpes, and Var, and of an archbishopric; and has several learned societies. Aix has manufactures of silk, wool, and cotton, and its industry and commerce, chiefly in oil, have materially increased within the present century. The mineral springs, from which the town took its ancient name, were accidentally discovered in 1704, and were identified by the medals, inscriptions, and other Roman monuments then dug up. The establishment of the baths belongs to the hospital. Tournefort, celebrated as a botanist, and one of the best of the travellers that have visited the Levant, was a native of Aix; as were Vanloo and Adanson.

AIX, a town of France, prov. Savoy, 8 m. N. Chambéry. Pop. 4,253 in 1861. It is celebrated for its hot baths, which were in vogue among the Romans, and are still extensively resorted to. There is a large and convenient building for the accommodation of visitors.

AIX-LA-CHAPELLE (the *Aachen* of the Germans, and the *Aquisgrana* of the Italians), an old and well-built city of Prussia, prov. Lower Rhine, near the confines of the Netherlands, on the railway from Brussels to Cologne. Aix-la-Chapelle was formerly a free imperial city, and is now the cap. of a prov. district of the same name. It is divided into the inner and outer town, and contained in 1846, 46,585 inhab. and in 1861,

59,941, including a garrison of 1,388. It is the seat of a bishop, of a court of appeal, a tribunal of commerce, and has an exchange, a gymnasium or college, a school of arts, a picture gallery, and a public library with above 50,000 volumes. Manufactures considerable, and recently increased. The most important are those of broad-cloth and cotton, in which 4,500 persons are engaged; and next to them the famous needle-works, which employ about 1,500 hands. Watchmaking and jewellery are extensively carried on; and there are also print-works and tan-works. Exclusive of the cathedral, there are eight Catholic churches, a Protestant church, and a synagogue. It had at one time twenty-one monasteries and convents, but most of them have been suppressed. Among the public buildings, the most remarkable are the town-house, enriched with portraits of the different ministers present at the negotiation of the treaty of 1748; the cathedral, founded by Charlemagne; and the fountain in the principal marketplace, with a statue of Charlemagne, &c. Handsome private houses are to be met with in every street. Aix-la-Chapelle was the favourite residence of Charlemagne, and for some time the capital of his empire; hence it was long customary to hold the coronation of the emperors of Germany in this town; and till 1794, when they were carried to Vienna, the regalia used on the occasion were to be seen in the convent chapel. Strangers are still shown a sabre of Charlemagne, a copy of the gospel written in gold characters, and an immense number of relics.

Aix-la-Chapelle is celebrated for its hot baths, which issue from 6 distinct springs. The most celebrated is that called the *Source de l'Empereur*. The water is strongly impregnated with sulphur, and has a temperature of 145° Fah. The baths are generally opened with much ceremony on the 1st of May, and are frequented by from 4,000 to 5,000 bathers annually. Two celebrated treaties of peace have been concluded in this city; the first in 1688, between France and Spain; and the second in 1748, between the different powers engaged in the wars of the Austrian succession. Here also a congress was held in 1818, which abridged the period of the Allies' occupation of France.

AJACCIO, a sea-port town of the island of Corsica, of which it is the cap. on its W. coast, and on the N. side of a gulph to which it gives name; lat. 41° 55' 1" N., long. 8° 44' 4" E. Pop. 4,098 in 1861. It has a citadel built in 1554; is the seat of a bishopric; has a royal court and other judicial establishments, a college, a model school, a public library, a good theatre, and a fine promenade along the bay. The latter is spacious and commodious, but exposed to the W. gales. Streets straight and broad, and houses good, but it labours under a deficiency of good water. It has a considerable trade, exporting wine, oil, and coral. Ajaccio is memorable for its having been the birth-place of the greatest war-captain of modern times. Napoleon I. was born here on the 5th of August, 1769, and a statue of the Emperor was erected at the principal place of the town in 1865.

AJMERE, a town of Hindostan, cap. district belonging to the British, in Rajpootana, 225 m. SW. Delhi; lat. 26° 81' N., long. 74° 28' E. Pop. estimated at 25,000. It is a well-built, moderate-sized town, on the slope of a high hill, at the summit of which is a fortress, formerly deemed impregnable, and which, with a little improvement from European skill, might easily be made a second Gibraltar. Ajmere is a holy city, having the good fortune to possess the tomb of a saint whose

miracles are renowned all over India. The emperor Akbar made a pilgrimage on foot to the shrine of the saint; and it continues to be resorted to by devotees from all parts of India. It is not uncommon, in Malwa, for pilgrims who have been at Ajmere to set up a brick or a stone taken from the sanctuary near their dwelling, and to become saints themselves, and have pilgrimages made to them! A strong detachment of troops is usually stationed at Ajmere, and the neighbouring town of Nuseerabad. It has now a medical school and a mission station.

At a short distance W. from Ajmere is the celebrated Hindoo temple of Pooshkur, on the banks of a sacred pool nearly a mile in circuit. It is annually visited in October by crowds of pilgrims from all parts of India.

AKABAH (GULPH AND CASTLE OF). The gulph of Akabah is a deep narrow inlet, uniting with the N.E. extremity of the Red Sea. It extends in a N.N.E. direction from 29° to $29^{\circ} 32'$ N. lat., a distance of above 100 Eng. m.; being, where broadest, 16 or 17 m. across. It communicates with the Red Sea by channels on each side the isle of Tiran at its S. extremity. This gulph, the *Sinus Elaniticus* of antiquity, so called from the port of Elana or Elath, forms the E. boundary of the peninsula occupied by Mount Sinai. It has the appearance of a narrow deep ravine, the cliffs rising in some places 2,000 feet perpendicularly from the sea, and has been very little frequented in modern times. Being exposed to sudden and heavy squalls, and encumbered in parts with coral reefs, its navigation is not a little dangerous.

The castle of Akabah, from which the gulph takes its modern name, is not a place of any strength. It is situated about 150 yards from the beach, on the E. side of the gulph, and about 2½ m. from its extremity, in lat. $29^{\circ} 30'$ N., long. $35^{\circ} 8'$ E. It has a supply of good water, and there are several Arab huts within its walls. The garrison consists of about 80 Egyptian soldiers, kept to guard the corn deposited in it for the supply of the caravans, in their journey from Cairo to Mecca.

Akabah has been supposed to occupy the site of Elan or Elath, from which an extensive intercourse was carried on in the earliest ages with Rhinoculura, now El Arish, on the Mediterranean, only 116 m. distant. There are, however, no ruins of any kind at Akabah, and no port. It would, therefore, seem more probable that the situation of Elath is identical with that of Jezirat Faroun, on the W. side of the gulph, and about 6 m. from its extremity, where there are very extensive ruins, and a natural harbour. Dr. Shaw supposes, apparently with much probability, that Meenap-el-Deahle, i. e. the *Golden Port*, on the W. coast of the gulph, and nearly opposite to Mount Sinai, occupies the site of *Eziongeber*, whence the ships of Solomon sailed to fetch gold from Ophir. It is said by Lieutenant Wellsted to be the only 'well-sheltered' harbour in the gulph. (Shaw's Travels in Barbary, &c. 4to. ed. p. 322.; Wellsted's Travels in Arabia, ii. passim.)

AKERMAN (an. *Tyras*), a fortified town of Russia in Europe, in Bessarabia, on the W. side of the estuary or *liman* of the Dniester, near its junction with the Black Sea; lat. $46^{\circ} 12'$ N., long. $30^{\circ} 24'$ E. Pop. 19,076 in 1858. The citadel, surrounded by a deep ditch, was constructed by the Genoese during the time that they were masters of the Black Sea. The Dniester being rapid and not well suited for internal navigation, the commerce of the town is not very considerable. The exports consist principally of salt, the produce of the salt lakes in its vicinity. The basin of the

Dniester having only from 5 to 7 feet water, the larger class of vessels anchor outside the bay, in the Black Sea, about 16 m. from town.

Akerman is distinguished in recent diplomatic history by the treaty concluded here in 1826 between Russia and the Ottoman Porte, by which Wallachia, Moldavia, and Servia were emancipated from all but a nominal dependence on the latter.

AKHISSAR (an. *Thyatira*), a city of Turkey in Asia, Anatolia, the seat of one of the Apocalyptic churches, 58 m. N.E. Smyrna. It stands on an eminence elevated but little above the surrounding marshy and alluvial plain. The town being situated on the direct road between Constantinople and Smyrna, wears an appearance of comfort superior to that of Anatolian towns in general. The bazaars are large and amply supplied; the khan handsome, clean, and well ordered. According to the latest estimates it has 1,000 Turkish, 300 Greek, and 30 Armenian dwellings, with a pop. of 6,000. It exports cotton goods.

AKHLAT, a town of Turkey in Asia, in Kurdistan, on the NW. shore of lake Van, at the foot of the Seibandagh. It is very ancient, and was formerly a place of considerable importance; but it is now greatly decayed, not having more than 1,000 houses, or perhaps 6,000 inhab. Its territory is filled with gardens and vineyards. (See Kinnear's Persian Empire, p. 323., where it is noticed under the name *Argish*.)

AKHTYRKA, a town of Russia in Europe, govern. of Kharkoff, 60 m. NW. Kharkoff. Pop. 13,946 in 1858. It has a pretty considerable commerce; and among its churches is one that attracts a good many pilgrims to visit a miraculous image of the Virgin.

AKISKA, or AKHALZIKH, a city of Asiatic Russia, prov. Georgia, formerly the cap. of a Turkish pachalik, on an affluent of, and at a short distance from the Kur, 115 m. W. Tiflis; lat. $31^{\circ} 45'$ N., long. $43^{\circ} 1'$ E. Pop. has been estimated at about 15,000, two-thirds Armenians. It is an open town, but is defended by a strong castle situated on a rock. It is remarkable for its fine mosque of Sultan Ahmed, built in imitation of St. Sophia, and for the college and library attached thereto. The latter was reckoned one of the most curious in the E.; but the Russians have removed about 300 of the rarest and most valuable works to Petersburg. Akiska is also the seat of a Greek archbishopric, and has about 60 Jewish families and a synagogue. Its environs are productive of silk, honey, and wax; and it has some manufactures. It was formerly a principal seat of the slave trade. The slaves sold in its markets were brought from Georgia, Mingrelia, Imeritia; and being conveyed to the nearest ports on the Black Sea, were shipped for Constantinople and Alexandria. This commerce is now entirely suppressed. Many of the Turkish inhabitants have left the town since its occupation by the Russians.

AKSERAI, a town of Turkey in Asia, in Karamania, cap. sanjack of same name, on the SW. arm of the Kizil Ernak, 90 m. N.E. Koneieh (an. *Iconium*). Pop. estim. at 10,000. It has a castle; and its territory is productive of corn and fruits.

AK-SHEHR (the *White City*), a city of Asiatic Turkey, Karamania, sanjack of the same name, 55 m. ESE. Afium Karahissar; lat. $38^{\circ} 18'$ N., long. $31^{\circ} 30'$ E. It is situated near the S. extremity of a considerable lake, at the foot of a mountain chain, in a rich and well watered country. Its position is said to be identical with that of the ancient *Thymbrium*, visited by the younger Cyrus; and, according to D'Anville, it was denominated *Antiochia ad Pisidiam*, from its being on the con-

lines of Pisidia, of which prov. it afterwards became the capital. It is mentioned in Turkish annals as the place where Bajazet was confined by Timour, and where he expired. It is supposed by Mr. Kinneir to have about 1,500 houses, with many fine gardens in the vicinity. Its principal ornament is a handsome mosque and college, dedicated to the memory of Bajazet. The streets are cleaned by means of streams from the neighbouring mountains that run through them. (Kinneir's Journey through Asia Minor, p. 226; Olivier, vi. p. 396.)

AKYAB, a marit. town of India beyond the Ganges, cap. prov. Arracan, and of a dist. of same name, on the E. of the island of Akyab; lat. $20^{\circ} 8' N.$, long. $92^{\circ} 54' E.$ It is built of wood; has broad streets, and markets for grain, and European and Indian goods. Its harbour, though inferior to that of Kyauk Phyos, is safe; and it is, in most other respects, superior to the last mentioned town as a place of trade. The vicinity is level, fertile, free from jungle, and traversed by several roads. It is the residence of a British commissioner.

ALA, a small town of the Tyrol, on the Adige, $7\frac{1}{2}$ m. S. Roveredo. Pop. 4,820 in 1858. It has a gymnasium and a Capuchin convent, and manufactures of silks and velvets.

ALABAMA, one of the United States, in the S. part of the Union, between $30^{\circ} 10'$ and $35^{\circ} N.$ lat., and 85° and $88^{\circ} 30' W.$ long., having S. Florida, SW. Gulf of Mexico, W. State of Mississippi, N. Tennessee, and E. Georgia. Area, 50,722 sq. m. Pop. in 1820, 144,041; in 1880, 309,527, of whom 117,549 were slaves, and 1,572 free blacks; in 1860, 964,201, of whom 485,080 were slaves, and 2,690 free coloured. The principal river, the Mobile, formed by the junction of the large rivers Tombigbee and Alabama, both of which flow S., falls into the bottom of Mobile Bay. The Chattahoochee also flowing S. forms in part the E. boundary of the state. The country gradually rises from the low level lands along the Gulf of Mexico, to an elevation of from 1,000 to 1,500 ft. in its N. parts. It has, in consequence, a considerable difference of temperature. Soil mostly very fertile, particularly in the N. counties. Cotton is the staple product, the crop of which, previous to the late Secession war, was rapidly increasing. The sugar cane is cultivated in the S. districts. Indian corn is the principal corn crop. Alabama was erected into a state in 1819. The government is vested in a governor, elected for 2 years, a senate elected for 3 do., and a house of representatives elected annually. Members of the latter receive 4 doll. a day each, and their number is not to fall short of 60, nor to exceed 100. Judges of the supreme and circuit courts are elected by a joint vote of the two houses of assembly for 7 and 6 years. Several canals and railways have been completed, and more projected. In 1862 there were 743 m. of railways open, but a good many have been more or less destroyed during the civil war. Liberal provision has been made for education; and a state university, well endowed, and on a large scale, has been founded near the cap. Tuscaloosa. The principal foreign trade of the state is carried on from Mobile (which see). The value of the domestic produce, principally cotton, exported during the year 1885, amounted to 7,572,128 doll., which had increased in 1860 to 38,670,183 doll.

ALABASTER, or **ELEUTHERA**, one of the Bahama or Lucayo islands, which see.

ALAIS (an. *Alesia*), a town of France, dep. Gard, cap. arrond., on the Gardon d'Alais, at the foot of the Cevennes, 25 m. NW. Nismes; lat. $44^{\circ} 7' 22'' N.$, long. $3^{\circ} 4' 25'' E.$ Pop. 20,257 in

1861. The town is ancient, and pretty well built. During the religious wars of France, the inhabitants were distinguished by their attachment to the Protestant party, and to bridle them Louis XIV. constructed a fort in the town. It has a communal college, a tribunal of primary jurisdiction, a theatre, a public library, a consistorial Protestant church, &c. It has, also, manufactures of riband, silk stockings, and gloves; with a glass work, potteries, copperas works, &c. Besides its own products, it has a considerable trade in the raw and dressed silks, oil, grain, &c. of the surrounding country. There are mines of iron and coal in the vicinity.

ALAND (ISLANDS OF), a group of islands belonging to Russia, at the entrance of the Gulph of Bothnia, between $59^{\circ} 50'$ and $60^{\circ} 32' N.$ lat., and $19^{\circ} 10'$ and $21^{\circ} 7' E.$ long., consisting of more than 80 inhabited and upwards of 200 uninhabited islets and rocks (*Skärön*), occupying an area of about 470 sq. m., and divided into three oblong clusters by the straits of Delet and Lappväsi. The Baltic bounds them to the S.; on the W. the straits of Alandschaf separate them from Sweden, their width being about 24 m.; and on the E. the straits of Wattuskifet, which are scarcely 2 m. broad where they are narrowest, and about 14 where they are broadest, interpose between them and the Finland shore. Pop. 15,000 in 1858. The principal of the islands, called Aland, has a pop. of 9,000, and the chief town here, likewise named Aland, a pop. of nearly 8,000. Nearly all the inhabitants are of Swedish extraction. Most of the islands stand at a considerable elevation above the level of the sea, and are intersected by chains of granite rocks, which occasionally rise into peaks, and are full of hollows. There are no rivers, but many small lakes. The surface is either a thin layer of clay or rich mould, slate-stone or sand. The climate, though keen, and at times severe, is more temperate than that of Finland. There are extensive forests, chiefly of birches and pines; the pasture grounds are very poor, excepting near some parts of the coast; and the arable land, on which rye and barley are mostly grown, produces a sufficiency for domestic consumption, the best yielding seven-fold. Hops, cabbages, parsnips, carrots, and other roots, potatoes, and a little flax are likewise raised. Nuts form an article of export. The horned cattle, of which there are upwards of 12,000; are small in size, and few of the cows have horns; the latter furnish the 'Aland cheeses,' which are much sought after, and made principally in the island of Fagloe. Of sheep there are above 13,000, the wool of which is converted into coarse stuffs and sail-cloth; horses and goats are also bred in considerable numbers. The fisheries are productive, particularly of (*strömlinge*) herrings and seals, of the first of which 6,000 tons and upwards are salted. Waterfowl abound. The exports consist of salt meat, butter, cheese, hides, and skins, dried and salted fish, wood for fuel, &c.; and the imports of salt, colonial produce, ironware, woollens, cottons, and other manufactures, &c. The Alanders are excellent seamen, and navigate small vessels of their own that trade with the adjacent parts: they are Swedes in their language, manners, and usages. There are a number of good harbours, many of which have been fortified by the Russians, who keep up a disproportionately large military force in the islands, as well as a numerous flotilla, called the 'Skaerenflott.' One of these harbours, *Bomarsund*, strongly fortified, and a station of the Russian fleet, was destroyed by the Anglo-French fleet in 1854. The islands contain 8 parishes and as many churches, and 7 churches

or chapels of ease. Aoland, the largest island, is nearly circular, being about 17 miles in length and 16 in breadth; it contains above 9,000 inhabitants, and has an excellent harbour at Ytternaes, on the W. side. It is divided by a narrow strait from Ekerøe, the westernmost island, which has a telegraph. On the E. coast of Aoland is the old castle of Castleholm, now in ruins. These islands were wrested by Russia from Sweden in 1809; and gave the former a position from which they may easily make a descent on the Swedish coast.

ALA-SHEHR (the exalted city), a city of Turkey in Asia, prov. Anatolia, famous as the seat of one of the Apocalyptic churches. It was formerly called *Philadelphia*. The town is situated 83 m. E. Smyrna, near the Cogamus, partly in the plain, and partly on one of the roots of Tmolus, which, separated by a valley from the posterior range, and rising to a very considerable elevation, is the site of the Acropolis. The old wall of the town, formed of small stones held together by a strong cement, and strengthened with towers, is broken down in many places, and the Acropolis is also in ruins. The modern houses are mean and irregular, and the streets narrow and filthy. The ruins of the church of St. John are of great antiquity, and ancient relics meet the eye at every step. Ala-Shehr contains nearly 3,000 Turkish and 250 Greek houses; so that the pop. may be estimated at from 15,000 to 18,000. It is the seat of a Greek archbishop, and divine service is regularly performed in 5 Christian churches. The country round is very fruitful; the waters are said to be excellent in dyeing; and being situated on one of the most frequented roads to Smyrna, it is much resorted to by caravans, and has a good deal of trade. It is held so sacred, even by the Turks, that they occasionally convey their dead thither for interment, from Constantinople; and apply to it the epithet of *Ala*, or the exalted.

Philadelphia derived its name from Attalus Philadelphus, brother of Eumenes, by whom it was founded in the second century B.C. Strabo says, that it suffered much from repeated shocks of earthquakes; and it was one of the fourteen cities which were partially or wholly destroyed by a subterranean convulsion in the reign of Tiberius. Anciently, indeed, it was matter of surprise that it was not abandoned; but it continues to be a considerable place; and the church of Philadelphia is still erect, 'a column in a scene of ruins.' It was the last city of Asia Minor that submitted to the Turks. 'At a distance from the sea, forgotten by the emperors, encompassed on all sides by the Turks, her valiant citizens defended their religion and freedom, above fourscore years; and at length (in 1890), capitulated to the proudest of the Ottomans' (Gibbon, cap. 64.)

ALASSIO, or ARRACI, a sea-port town of Northern Italy, prov. Genoa, 5 m. SSW. Albenga. Pop. 4,644 in 1861. Most of the inhabitants are industrious, active, and daring seamen. There is good anchorage opposite to the town, which consists of a long narrow street. Fine coral is fished on the coast. A good harbour for the largest class of vessels might be formed between Cape Mele and the island of Galiinara.

ALATRI, a city of Central Italy, prov. Frosinone, 6 m. NE. Frosinone. Pop. 11,370 in 1861. The city is the seat of a bishopric, has a cathedral, a collegiate church, and some convents. Antiquities are frequently dug up in the environs, which abound in olives and vines.

ALATYR, a town of Russia in Europe, gov. Simbirsk, at the confluence of the Alaty with the Sura, 90 m. NNW. Simbirsk. Pop. 4,407 in 1858.

It is built of wood, has tanneries, a glass work, and a considerable trade in corn.

ALAYA (an. *Coracesium*), a sea-port town of Turkey in Asia, Anatolia, cap. sanjak of the same name, on the E. side of a lofty promontory; lat. 36° 31' 51" N., long. 32° 2' 24" E. Pop. about 2,000. The promontory on which this town is built bears a striking resemblance to that of Gibraltar. It is joined to the continent on the N. by a low sandy isthmus, from which it rises abruptly; and its W. and S. sides consist of perpendicular cliffs 500 or 600 feet high. The E. side, on which the town is built, is also so steep that the houses seem to stand on the top of each other. 'In short, it forms a natural fortress that might be rendered impregnable; and the numerous walls and towers prove how anxiously its former possessors laboured to make it so.' At present it is of trifling importance: streets and houses miserable; mosques few and mean. When visited by Captain Beaufort it had no signs of commerce. The bay is open to southerly winds, and the anchorage indifferent.

Coracesium shut its gates against Antiochus when all the other towns of Cilicia had submitted; and at a subsequent period it was the place selected by the pirates at which to make a last stand in their struggle with Pompey. (Beaufort's *Karamania*, p. 172, &c.)

ALBA, a town of Northern Italy, prov. Cuneo, on the Tanaro, 32 m. SSE. Turin. Pop. 9,677 in 1861. It has a tribunal of original jurisdiction, a cathedral, 3 parish churches, a college, and a considerable trade in cattle.

ALBACETE, a town of Spain, prov. Murcia, 9 m. NW. Chinchella, agreeably situated in a vast and fruitful plain. Pop. 11,860 in 1857. The town has manufactures of coarse cloth and soap. Great quantities of wine and saffron are collected in its vicinity; and a great cattle market is annually held in September.

ALBAN (ST.), a town of France, dep. Lozere, 22 m. NNW. Mende. Pop. 2,270 in 1861.

ALBANIA, a large prov. of European Turkey, bounded N. by Dalmatia and Servia, E. by Macedonia and Thessaly, S. by Livadia, and W. by the Adriatic, along with that part of the Mediterranean called the Ionian Sea, lying generally between lat. 39° and 43° N., long. 19° and 21° 30' E. It thus comprehends, in its widest acceptation, the ancient Illyria and Epirus, and is at present included in the Turkish government of Romania. Its area is 18,944 sq. m., and the pop. is estimated at 1,200,000. The mountains in the north rise to the height of 9,000 feet, but the country includes the fertile plains of Scutari and others. The climate is warm but healthy. The maritime trade is for the most part carried on through the ports of Prevesa, Salamina, Gomenitza, Sayada, Santi Quaranta, and Avlona, while at most of the smaller ports that indent the western coast a petty trade, of which no statistics have been collected, is carried on with Corfu. The safest port on the Adriatic is Avlona. The largest town in the province is Janina, on a lake of the same name, which has a pop. estimated at 36,000. The principal productions and exports are valonia, tobacco, olives, Indian corn, dye-wood, raw hides, wool, raw silk, cheese, salt provisions, drugs, sheep, and horses; but nearly all the products of Southern Europe, including cattle, may be included in the list of the district's capabilities. The Albanians are principally Mohammedans, though on the coast a considerable number are of the Greek or Roman churches. Lately considerable attention has been paid to the construction of roads. In the end of 1863 telegraphic communication was established between Con-

Constantinople and Janina, by way of Salahora and Jarissa, and works were in progress in 1865 for continuing it to Arba and Preveea. (Consular Reports.)

ALBANO (TOWN, LAKE, AND MOUNTAIN OF), in the *Campagna di Roma*, situated in the line of the Appian Way, on a hill, near the SW. side of the lake, about 14 m. SSE. Rome. Pop. 6,400 in 1858. This town is not built, as some have supposed, on the site of *Alba Longa*, which stood on the other side of the lake, but on the ruins of Pompey's villa. Its situation, at a moderate elevation above the level of the plain, fine salubrious air, shady walks, and magnificent views of the 'eternal city,' the *Campagna*, and the sea, make it a favourite retreat of the more opulent Roman citizens, particularly during spring and autumn. It is the seat of an archbishop; is well built; has a cathedral and some convents, with many fine palaces, among which may be specified those of the Corsini and Barberini families. At a little distance, on the margin of the lake, is Castel Gandolfo, the summer residence of the pope. The adjacent country is almost wholly appropriated to the culture of the vine; and the wine which it yields still maintains its ancient reputation.

The lake of Albano, a little to the NE. of the town, is surrounded on all sides by very high banks, except towards the N., where they are a little lower. It has the form of an irregular ellipse, and there would appear to be little doubt that it occupies the crater of an extinct volcano. The distance round the crater, or summit of the basin of the lake, is estimated at about 8 m., and that round the water's edge about 4 m. It is in parts very deep: a variety of fish are found in it, among which are eels of an immense size, and highly esteemed.

But the subterranean conduit or tunnel, called by the Italians an *emissario*, for conveying away its surplus water, is the feature most worthy the attention of the intelligent traveller who visits this lake. This tunnel, intended to prevent the waters of the lake from injuring the surrounding country by overflowing its banks, and to keep them always at their present level, was completed at an early period of the Roman history (about 400 years B.C.), and bears unequivocal proofs of the sagacity and perseverance of those by whom it was executed. It is cut right through the mountain, and mostly through solid rock, a distance of considerably more than a mile, being generally about 3 feet 10 inches wide, and from $6\frac{1}{2}$ to 7 feet in height; at its entry from the lake, and its issue in the plain, it is solidly built round with large stones, arched at top, and is in perfect preservation. This great work is said to have been completed in about a year; but it has been objected to this, that as only three or at most four men could have wrought together, and these at the outer end of the tunnel only, the other end being under water, it must have taken many years for its completion. But Piranesi has shown that after tracing the line of the tunnel above ground, shafts had been sunk, by which workmen might have been let down in various places, and the work completed within the stated time.

The Alban Mount (*Mons Albanus*), now *Monte Cavo*, lies a little to the E. of the lake. It is about 3,176 feet in height; and the view from its summit, extending over Latium and a great extent of country, is one of the noblest that can be imagined. It was crowned by a temple in honour of Jupiter Latialis, where sacrifices were annually offered up by deputies from the various Latin states, with the Romans at their head, to their common father and protector. Here, also, the

Roman generals refused the honour of the great triumph in the city, performed the lesser triumph, or ovation, and sacrificed to Jupiter Latialis. Some fragments of this famous temple existed in 1750; but they have since disappeared. (Besides the authorities referred to, see the excellent work of Lumsden on the Antiquities of Rome, pp. 458-465.)

ALBAN'S (ST.), an ancient borough of England, co. Hertford, occupying the summit and sides of a low hill, on a feeder of the Colne, 20 m. NNW. London, on the London and North Western railway. Pop. of parish 8,679, and of municipal borough 7,675 in 1861. The borough long had the privilege of returning 2 m. to the H. of C., the right of voting having been vested in the free-men, whether resident or not, and in scot-and-lot householders; but it was a few years ago disfranchised on account of corruption at the elections. The place is very ancient, and is either on or very near the site of the ancient Roman *Verulamium*. The abbey church is the most imposing object in the place; and is celebrated alike for its antiquity and great magnitude. It lately underwent a thorough repair. In the church of St. Michael is the tomb of the great Lord Bacon, with a fine marble monument to his memory. There is a free grammar school, with several charitable institutions. The town is not thriving. Straw plait is the principal manufacture; and there are besides a cotton mill and a silk mill, but neither on a large scale. There is a market each Saturday.

ALBAN'S HEAD (ST.), a cape of England, on the English Channel, co. Dorset; lat. $50^{\circ} 38' 10''$ N., long. $2^{\circ} 6' 15''$ W.

ALBANY, a city of the United States, cap. state of New York, on the W. bank of the Hudson, 145 m. N. New York; lat. $42^{\circ} 39' 3''$ N., long. $73^{\circ} 44' 50''$ W. Pop. in 1825, 15,971; in 1840, 38,721; and in 1860, 62,867. Besides being the seat of government, it is, in population, wealth and commerce, the second city in the state. It is finely situated at the head of the river navigation of the Hudson, and is now connected by canals with Lake Erie and the Mississippi on the one hand, and with Lake Champlain and the St. Lawrence on the other. It is also the centre where a number of railways meet connecting it with Buffalo, Boston, Lake Champlain, and New York; so that it is, and has for a considerable time been, one of the principal centres of internal commerce in the Union. A fine basin has been constructed for the accommodation of the shipping on the river and the canals. Among the public buildings are the capitol, the state house, an academy, a splendid museum, a jail, with numerous banks and places for public worship.

ALBANY, a district of S. Africa, belonging to Great Britain, at the E. extremity of the Cape Colony. It has on the E. the Great Fish river, on the W. Boshuana river, on the N. an imaginary line, drawn from the junction of the Great and Little Fish rivers to the Konap, and on the S. the ocean. Its area has been variously estimated, but may probably amount to about 2,000 sq. m. or 1,280,000 acres. Its aspect is highly pleasing, being diversified with hill and dale, its verdant pastures and smooth grassy knolls, contrasting agreeably with the dark masses of forest, which clothe the broken ground near the river courses. Soil very various. The stiff clayey lands would be the most productive, were they sufficiently watered; but as rain is precarious, and the rivers are said not to be suitable for irrigation, light friable soils are preferred. Climate temperate, salubrious, and suitable for European constitutions. Lions, wolves, and leopards are occasionally met with; but are

every day becoming rarer. Elephants are now seldom seen within the limits of the district. Horses, cattle, sheep, goats, hogs, &c., thrive remarkably well, and their produce forms the great dependence of the colonists. The country is traversed by numerous streams, of which the Great Fish river is by far the most important. Previously to 1820, there were not more than 1600 Europeans in the district; but government having given encouragement to emigration to this quarter, 3,720 emigrants landed in 1820, at Algoa Bay, whence the greater number proceeded to this district. For the first 4 or 5 years, the colonists suffered severely from a failure of the wheat crop; but their progress from 1825 down to 1835 was comparatively rapid, and presented a picture of prosperity and advancement, not often to be met with in the early annals, even of the most successful colonies. At the last-mentioned epoch, however, this career was suddenly arrested by an irruption of the Caffres, who destroyed a great quantity of valuable property, and killed several of the colonists. This invasion having been repelled, and peace having been again restored with the Caffres, a lieutenant-governor was appointed to the E. province, and the district is fast recovering from the losses it had sustained. The pop. in 1861 was estimated at above 20,000, with 15,000 whites. Graham's Town, the cap. of the E. prov. and the residence of the lieutenant-governor, is situated almost in the centre of this district. A town, called Port Francis, has been founded at the mouth of the Kowie river; but as the access to it is obstructed by a dangerous bar, it is doubted whether it will ever become of any material importance. The shipping trade of the district is chiefly carried from Port Elizabeth on Algoa Bay.

ALBEMARLE SOUND, United States, coast of N. Carolina, in the NE. part of the state, being 60 m. long from E. to W., and from 4 to 15 wide. It communicates with Pamlico Sound and the ocean by several narrow inlets, and with Chesapeake Bay by a canal cut through Dismal Swamp.

ALBENGA (an. *Albium Ingaunum*), an ancient sea-port town of Northern Italy, prov. Genoa, 44 m. SW. Genoa, on the Centa. Pop. 4,189 in 1861. It is the seat of a bishopric, and has several remains of antiquity. The situation is unhealthy; but the surrounding country is productive of oil and hemp. This is the birthplace of Proculus, a competitor with Probus for the throne of the Cæsars.

ALBERT, a town of France, dep. Somme, cap. cant., on the Miraumont, 15 m. ENE. Amiens. Pop. 3,806 in 1861. It has a cotton mill, with print works, bleachfields, and paper mills. In its vicinity is a cave or quarry where there are a variety of petrifications.

ALBINO, a town of Northern Italy, prov. Bergamo, on the Serio, 7 m. NE. Bergamo. Pop. 2,627 in 1861. It is very well built, the castle and gardens of Count Spini being particularly worthy of notice. There are silk filatures, with a manufactory of agricultural implements and machinery for polishing whetstones renowned all over Europe.

ALBION (NEW), a large tract of the NW. coast of America. This designation was given by Sir Francis Drake to California and part of the adjoining coast; but recent geographers, and among others Humboldt, limit the denomination of New Albion to that part of the coast which extends from the 43rd to the 48th deg. N. lat.

ALBUFEIRA, a sea-port town of Portugal, S. coast Algarve, 28 m. E. Lagos; lat. 37° 7' 30" N., long. 7° 19' 12" W. Pop. 2,800 in 1858. Large vessels may anchor in the port, which is defended

by a citadel and batteries. The inhabitants mostly subsist by fishing.

ALBUHERA, a town of Spain, Estremadura, 14 m. SSE. Badajoz, on the river and near the mountain of the same name. Here, on the 16th May, 1811, a sanguinary conflict took place between the allied British, Spanish, and Portuguese troops under Marshal Beresford, and a French force under Marshal Soult. Each army lost about 7,000 men in killed and wounded. On the allied side the chief brunt of the action fell on the British, who suffered severely. In the end Soult, who commenced the attack, retreated.

ALBUQUERQUE, a town of Spain, with an old castle, prov. Estremadura, on the frontier of Portugal, 22 m. NNW. Badajoz. Pop. 5,470 in 1857. It has cloth and cotton manufactories.

ALBY (*Albige*), a city of France, cap. dep. Tarn, on the Tarn, which is crossed by an old-fashioned bridge. Pop. 15,498 in 1861. The town has a station on the railway *du Midi*. It is situated on a hill, and has few public buildings worth notice, except the cathedral, begun in 1277 and finished in 1480. It is ill built, the houses being gloomy, and the streets narrow, crooked, and dirty; but the shady *Promenade de la Lice*, on the side next the country, is universally admired. It has a public library, a museum, and barracks, with various manufactories of coarse cloth, sacking, table linen, handkerchiefs, cottons, hats, and paper. The preparation of wood has been long carried on in the vicinity. Alby has suffered much at different periods for its attachment to Protestantism.

ALCALA DE GISVERT, an ill built town of Spain, prov. Valencia. Pop. 4,954 in 1857.

ALCALA DE HENARES (*Complutum*), a city of Spain, prov. Madrid, on the right bank of the river of the same name, 17 m. ENE. Madrid. Pop. 6,400 in 1857. It is surrounded by walls flanked with square towers, has a fine Gothic cathedral, a magnificent palace of the archbishop of Toledo, with numerous churches and convents. It is the seat of a university founded in 1510 by the illustrious statesman, Cardinal Ximenes, which, next to Salamanca, is the most celebrated seminary in Spain: it had, in 1831, 17 colleges and 81 professors. The cardinal also bequeathed his library to the university, and founded in it a printing press, which produced, at his expense, in 1512-17, the famous Polyglott Bible, denominated the *Biblia Complutensis*; an imperishable and noble monument of his piety, learning, and liberality. The remains of the cardinal were interred in the college church. But it is the chief glory of Alcala de Henares to have given birth, in 1547, to Cervantes, the inimitable author of Don Quixote; it is also the birth-place of the poet Figueroa, and of Solis, the historian of Mexico.

ALCALA DE LOS GAZULES, a town of Spain, prov. Cadiz, 38 m. E. Cadiz, and 48 m. S. Seville. Pop. 5,516 in 1857. The town stands in a hilly and bleak district, totally unfit for tillage, but well adapted for rearing sheep, which constitutes the chief employment of the people. It is at a very short distance from the river Barbate, which flows into the sea 35 m. SE. Cadiz. Close to the town are the remains of an old Roman castle.

ALCALA LA REAL, a town of Spain, prov. Jaen, on the Gualcoton, at an elevation of more than 2,700 feet above the level of the sea, 30 m. WSW. Jaen. Pop. 6,788 in 1857. There is a rich abbey, with various churches, convents, and a hospital. On the 28th January, 1810, the French defeated the Spaniards in the vicinity of this town.

ALCAMO, a town of the island of Sicily, in the

Val di Mazzara, on the great road from Palermo to Trapani, 24 m. WSW. Palermo. Pop. 19,518 in 1861. The town is situated on high ground, in a fine, open, cultivated country, and is well sheltered by large woods of olive trees. Within the district of Alcamo, and at no great distance from the town, finely situated on an eminence, are the magnificent ruins of an ancient Doric temple,—all that now remains of the once powerful Segesta. It is a parallelogram, 162 by 66 feet, and has 36 columns, which, when examined by Swinburne, were all, with one exception, perfectly entire. (Swinburne's *Two Sicilies*, ii. p. 236, 4to. ed.)

ALCANIZ (Arab. for *treasury*), a town of Spain, prov. of Ternel, Aragon, on the r. bank of the Gaudaloupe on a hill side, above which is a castle, built by James I. of Aragon, 62 m. SE. Saragossa. Pop. 6,400 in 1857. A handsome collegiate church, with a noble portico, is the chief building. It is encircled by walls; and is connected by a canal, constructed by the Moors, with the Ebro. There are in the vicinity rich mines of alum, and thriving plantations of mulberry and other trees; there is also in its vicinity a pond, which produces remarkably large fine eels.

ALCANTARA (from the Arabic *al-cantarat-al-seif*, the bridge of the sword), a fortified town of Spain, prov. Estremadura; and the cap. of a dist. of the same name. Pop. 4,278 in 1857. It stands on a steep hill, close to the E. bank of the Tagus (running here NW.); was called by the Romans, its founders, *Norba-Cæsarea*; and they in the reign of Trajan erected the famous bridge, whence its present name is derived. It was of granite, its length 577 ft., breadth 22 ft., span of the two centre arches 110 ft., thickness of piers 38 ft., height above river-level, 175 ft.; in the middle of the bridge was a triumphal arch, 46 ft. high, with a Roman inscription. (Laborde's *Voyage Pittoresque*, where see views and sections of the bridge. Ponz, viii. p. 63.) This fine relic of antiquity was unfortunately destroyed, together with some adjoining buildings, by the British troops, June 10, 1809, owing to a mistake of military orders. (Napier, vol. ii. p. 316.) The river was once navigable up this town, and before the separation of Portugal, in 1580, a large trade in fruit was carried on with Lisbon (Miñano); but it now serves only to turn a few mills, and to supply the people with dace, barbel, eels and other fish, which greatly abound. (Ponz.) It is joined a little below Alcantara by the Alagon, Jartin and Salor. At the expulsion of the Moors in 1218, which was aided by the knights of San Julian del Pereyro, the defence of the town was entrusted to them, and they thenceforward assumed the title of knights of Alcantara. The order is now a dignity of some value, and the monarch has been the grand-master since 1495. The knights, in 1506, built a handsome convent and church, which still exist. A cloth manufacture once existed here; but it has perished. Brick-making and tanning are all the signs now to be seen of industry.

ALCANTARA, a sea-port town of Brazil, prov. Maranhão, on a hill, 15 m. NW. San Louis de Maranhão. The surrounding territory is productive of excellent cotton and rice; and the salt lakes, a little to the N. of the town, might yield the largest supplies if they were properly managed. Estim. Pop. 10,000.

ALCANTARILLA, a dist. and town of Spain, prov. Murcia, 4 m. from the l. bank of the Segura, 5 m. SW. Murcia, and 50 SW. Alicante. Pop. 4,083 in 1857. The country around is famous for its wines.

ALCAREZ, a town of Spain, prov. La Mancha, on the Guadarama, 45 miles WSW. Manzanares.

Pop. 2,907 in 1857. The town has a citadel, manufactures of cloth, mines of calamine and copper, and an aqueduct.

ALCAZAR DO SAL, a town of Portugal, prov. Estremadura, on the r. bank of the Sado, 29 m. SE. Setubal. Pop. 2,400 in 1857. The town is delightfully sit. in the midst of an extensive and fertile plain, and is chiefly distinguished for its salt works and sedge mat factories.

ALCAZAR DE SAN JUAN, a town of Spain, prov. La Mancha, 55 m. SE. Toledo, on the railway from Madrid to Alicante. It is the cap. of a dist. which contains 16 towns and villages. Pop. of town 7,800 in 1857. The dist. (besides its pasture, corn, oil, and fruits, which are abundant) produces saltpetre and other minerals, supporting above 500 workmen and their families. The town contains several soap factories.

ALCESTER, a pa. and m. town of England, co. Warwick, 103 m. NW. Lond., 16 m. WSW. Warwick. Pop. of parish, 2,128 in 1861. The town, situated at the confluence of the Alne and Arrow, has a handsome Gothic church, a free school, a good corn market, and carries on a pretty large needle manufacture.

ALCIRA, a town of Spain, prov. Valencia, on an island of the Xucar, 25 m. SSW. Valencia, and so low that the river by rising 12 feet above its usual height, inundates the town; lat. 39° 6' N., long. 0° 25' W. Pop. 9,250 in 1857. It is fortified and flanked with towers; has several churches, convents, and hospitals, with two fine bridges over the Xucar. This is a very ancient town, having been successively occupied by the Carthaginians, Romans, and Moors. The inhab. are thrifty and intelligent farmers, superior to most in Spain, and in the immediate neighbourhood of the town they raise excellent pimientos and tomatoes, in addition to the rice and other produce of the district. About 2 m. E. are some limestone hills, among which is a stalactitic cave (*Cueva de las Maravillas*), visited as a natural curiosity.

ALCKMAER. See ALKMAAR.

ALCOBAZA, a town of Portugal, prov. Estremadura; lat. 39° 36' N., long. 9° W., 15 m. SSW. Leiria, and within 5 m. of the sea, at the confluence of two small rivers. Pop. 2,700 in 1857. The town contains a very handsome and extensive Cistercian monastery, founded by Alfonso I., possessing a good library with valuable MSS., and a collection of pictures, among which are portraits of all the Portuguese kings, from Alfonso I. to Donna Maria I. The cotton manufacture is carried on here to some extent.

ALCOLEA DEL REY, a town of Spain, prov. Seville, 26 m. NE. of that city, near the r. bank of the Guadalquivir, in the midst of a fine and productive plain. Pop. 2,200 in 1857. When the Guadalquivir was more navigable than at present, this town appears to have been of some importance. The recently completed railway from Seville to Cordova and Madrid has restored it to somewhat of its former prosperity.

ALCORA, a town of Spain, prov. Valencia, 48 m. N. Valencia, in a country watered by the Mijares. Pop. 5,609 in 1857. Its agricultural and industrial products are not important.

ALCOVER, a town of Spain, prov. Cataluna, on the banks of the small river Angura. Pop. 2,812 in 1857. In the time of Alfonso VIII. it was a place of some importance.

ALCOY, a town of Spain, Valencia, at the source of the Alcoy, 24 m. N. Alicante. Pop. town and district 27,000 in 1857. Besides churches and convents, it has a college, a considerable manufactory of fine cloth, soap works, and paper works; the contiguous territory is very fertile.

ALCUDIA, a town belonging to Spain, near the N. extrem. of the isle Majorca, on a small peninsula between the bays of Pollensa and Alcudia; lat. $39^{\circ} 50'$, long. $8^{\circ} 8' E$. Pop. 1,116 in 1857. Two stagnant pools, or Albuferas, lie between it and the bay; and the exhalations from them greatly injure the health of the inhabitants, a sickly and miserable race. The pools might be drained, and the soil rendered useful, if the natives were possessed of any enterprise or energy. Coral-fishing employs some 40 vessels in the bay. At about 3 m. S.E. is a stalactitic cave, visited and well described by Antillon. Several other towns in Spain have the name of *Alcudia*, but none of great importance.

ALDBOROUGH, a borough of England, W. R. co. York, wapentake Claro, 185 m. NNW. Lond., 18 m. WNW. York. Pop. 620 in 1831, and 522 in 1861. The borough enjoyed, since the era of Philip and Mary, the privilege of returning 2 members to the H. of C.; but was disfranchised by the Reform Act.

ALDBOROUGH, or **ALDEBURGH**, a sea-port town of England, co. Suffolk, hund. Plomesgate, 85 m. NE. Lond. Pop. of bor. and pa. 1,721 in 1861. The borough returned 2 m. to the H. of C. from the 15th Eliz. down to the passing of the Reform Act, when it was disfranchised. It has suffered much from encroachments of the sea. For the last few years it has been rising into repute as a quiet watering place. A short branch line connects Aldborough with the Great Eastern railway.

ALDEA DEL REY, a town of Spain, prov. La Mancha (Ciudad Real), on the l. bank of the Jabalon, an affluent of the Guadiana, 17 m. S. Ciudad Real. Pop. 1,650 in 1857. The climate is very unhealthy, owing to inundations of the river, which a very slight industry might obviate. Here is a palace of the knights commanders of Calatrava.

ALDEA GALEGA, a town of Portugal, prov. Estremadura, estuary of the Tagus, on the E. side of the bay of Montijo. Pop. 3,750 in 1858. Previous to the establishment of railways the town was well known as a ferry station between Lisbon and the great road to Badajoz and Madrid.

ALDERNEY, an island belonging to Great Britain, in the English Channel, 55 m. S. from the Isle of Portland, and 18 m. W. Cape La Hogue in Normandy. The channel between Alderney and the latter, called the Race of Alderney, is dangerous in stormy weather from the strength and rapidity of the tides. This island is about $3\frac{1}{2}$ m. in length by $\frac{1}{2}$ m. in breadth, and had in 1861 a pop. of 4,932. Alderney is strongly fortified, and large sums have been expended in the erection of a harbour for men-of-war. It is a dependency of Guernsey, and celebrated for a small breed of cows which afford excellent milk and butter.

ALDERSHOT, a par. of England, co. of Hants, which has come into notice since 1854, in consequence of the establishment there in that year of a permanent camp for 20,000 men. The camp has caused the erection of a town in the immediate neighbourhood. Pop. in 1861, 16,720, of which 8,965 were military. There are railway stations in the N. and E. of the camp.

ALDSTONE MOOR, a par. and m. town of England, co. Cumberland, Leath ward, on the borders of Northumberland. The town stands on a hill washed by the Tyne. The parish contains 85,050 acres. Pop. of par. 6,404 in 1861. It is chiefly celebrated for its lead mines, formerly the property of the earls of Derwentwater, and now of Greenwich Hospital.

ALEDO, a town of Spain, in the prov. of Murcia, sit. on a mountain side, 6 m. from the l.

bank of the Sangonera, a branch of the Segura, and about 25 m. WSW. Murcia. Pop. 1,029 in 1857.

ALENÇON, a town of France, cap. dep. Orne, in an extensive plain of the same name, on the Sarthe, near the southern boundary of the dep., 56 m. SSE. Caen, on the railway from Caen to Mans. Pop. 16,110 in 1861. The town is agreeably situated and well built; streets generally broad and well paved; the walls by which it was formerly surrounded have nearly disappeared, and it has several considerable suburbs. Among the public buildings may be specified the cathedral church, the town-house embodying two well-preserved towers, the only remains of the ancient castle of the Dukes of Alençon, the courts of justice, and the corn market. It has a communal college, several hospitals, a public library, and an observatory. Its manufactory of the lace, known by the name of *Point d'Alençon*, established by Colbert, still preserves its ancient celebrity, and it has in addition manufactures of muslin, of coarse and fine linen, buckram, serges, stockings, and straw hats. There are freestone quarries in the neighbourhood; and at Hartz, a little to the W. of the town, are found the stones called Alençon diamonds, which when cleaned and polished are said to be little inferior, in respect of lustre, to the genuine gem. Several fairs are held in the town, which is the seat of a considerable commerce. During the religious wars, Alençon, which was generally attached to the Protestant party, suffered severely.

ALENQUIR, a town of Portugal, prov. Estremadura, 26 m. NNE. Lisbon. Pop. 3,200 in 1858. It is one of the principal points for the defence of Lisbon.

ALEPPO, a city in the N. of Syria, called by the natives Haleb-es-Shabha (an. *Chalybon* and *Beræa*); lat. $36^{\circ} 11' 25'' N$, long. $37^{\circ} 10' 15'' E$; 76 m. ESE. Iskenderoun, and 126 m. NNE. Damascus. Its present pop. is estimated at about 100,000; though from the middle of the 17th to the beginning of the present century it was variously estimated at from 200,000 to 258,000. According to Russell, it had in 1794, 225,000 inhab., of whom 30,000 were Christians, and 5,000 Jews, the rest being Mohammedans; but, according to Volney, the pop. in 1785 did not exceed 100,000, which we incline to think is the more probable statement. Aleppo occupies an elevation in the middle of an open plain; and is surrounded by walls 30 ft. high and 20 broad; supposed, from the massive style of their architecture, to be Saracenic. The city, within the walls, is about $3\frac{1}{2}$ m. in circ., but including its suburbs, it occupies a circuit of more than double that extent. Houses of freestone: they are said to be elegant and durable, and those belonging to the better classes exhibit an elaborate degree of ornament in their lofty ceilings decorated with arabesques, and their large windows of painted glass. Roofs flat, as in most Eastern towns: during the summer months, the inhabitants pass their nights upon them, unprotected by tents or awnings of any kind. These flat roofs form also a continuous terrace, upon which it is easy, by climbing over the low partition walls, to pass from one end of the town to another. Streets broad, well paved, and clean—remarkable qualities in the E.: the latter may perhaps be owing, in part, to the drainage, occasioned by the slight elevation of the town and neighbourhood above the surrounding plain. The seraglio, or palace of the pasha, which used to be admired for its magnificence, was destroyed in 1819-20 during the siege of the town by Khourchid Ahmed Pacha. Mosques numerous, but nearly

all have been injured, and many of them are in ruins, from the effects of the earthquakes which have so often shaken this part of Syria; the Djaméé, Zacharie, and El-Halawe are, however, fine remnants of the ancient Roman style; they were originally Christian edifices, the latter built, it is said, by the Empress Helena. There are ten or twelve Christian churches, three Christian convents, and several wakfs, the conventual establishments of the Mohammedans. An ancient aqueduct conveys a plentiful puppy of good water from two springs. This work is an object of much care; and it is singular that, being certainly constructed before the time of Constantine, it should have remained uninjured amid the frequent convulsions to which the town has been subject. Within the walls of the city is a castle, partly in ruins, built upon an artificial mound, of considerable height, and $\frac{1}{2}$ m. in circumference; this is surrounded by a broad and deep, but dry ditch, crossed by a bridge of 7 arches. From this spot is commanded a very extensive view, bounded N. by the snowy tops of the Taurus, W. by the elevated rocky bed of the Aaszy; while to the S. and E. the eye reaches over the desert as far as the Euphrates. Here are several large khans, principally occupied by Frank and other foreign merchants. These are handsome and convenient buildings, containing counting-houses and store-rooms ranged round an interior court, in which are stands for loading and unloading the beasts of burden, and a fountain to supply them with water. At present, however, Aleppo can be regarded as little more than the shadow of its former self. Slight earthquakes are frequent in its neighbourhood, but in 1822 a tremendous shock overturned most of the public buildings, and reduced the greater part of the city to a heap of ruins. This calamity has occasioned the erection of a new suburb, materially altering the appearance, and injuring the beauty of the town. The houses in this suburb, intended at first for the temporary shelter of the population that had escaped from the town, were hastily constructed of wood, lath, and plaster; but from want, either of funds to repair their more substantial dwellings, or of energy to set about the work, or probably from a fear of returning into the city, these hastily constructed edifices have become permanent residences, while many, perhaps the greater number, of the large and convenient stone buildings in the city are either in ruins or tenanted.

Although upon the borders of the desert, Aleppo is advantageously and agreeably situated. A small stream, called the Koeik (an. *Chalus*), waters the W. side of the town. This brook, which is about the size of the New River, and never dry, swells in the rainy season to a formidable and rapid current: it rises at the foot of Mount Taurus, about 70 m. N., and after a course of 80 or 90 m. loses itself in a large morass full of wild boars and pelicans. The upper course of the Koeik lies between naked rocks, but near Aleppo and S. of that town, it flows through an extremely fertile valley, in a high state of cultivation. This river and the aqueduct before mentioned furnish an abundant and unfailing supply of water; and besides the public fountains and baths, every private individual, who chooses to be at the expense of pipes, may have his house served with water in the European fashion.

The far famed *gardens of Aleppo* are situated to the SE. of the city, upon the banks of a small rivulet, one of the very few affluents of the Koeik. They are rather orchards than gardens, consisting of fruit trees, with vegetables growing between them, but scarcely any flowers. They are pleasant

spots, from the luxuriance of their productions, and the nightingales that resort to their shades; but very little taste is exhibited in their arrangements. W. of the town the banks of the river are covered with vines, olives, and fig-trees, and towards the E. are some plantations of pistachio trees, which, though still extensive, are only the remains of much more majestic groves, for which this country was formerly famous.

The air of Aleppo is dry and piercing, but accounted salubrious both to natives and strangers; the former, however, are subject to a peculiar disease, said to attack them once, at least, in their lives, the *habal-es-sine*; 'ulcer,' or 'ringworm of Aleppo.' It is, at first, an inflammation of the skin, subsequently becomes an ulcer, continues for a year, and generally leaves a scar for life. It usually fixes in the face, and an Aleppine is known all over the E. by the mark left by this disorder, the cause of which is unknown, but suspected to be owing to some quality of the water.

Aleppo appears to have risen to importance on the destruction of Palmyra. Like the latter, it was a convenient emporium for the trade between Europe and the East, so long as it was carried on over land. The productions of Persia and India came to it in caravans from Bagdad and Bussora to be shipped at Iskenderoun and Latakia for the different ports of Europe. Aleppo communicated also with Arabia and Egypt, by way of Damascus; with Asia Minor, by Tarsus; and with Armenia, by Diarbekir. It rose to great wealth and consequence under the Greek sovereigns of Syria, and into still greater under the early Roman emperors. In 688 A. D., it resisted the arms of the Arabs for several months; but being finally taken, it became of as much importance under the Saracens, as it had before been under the Romans or Greeks. In the tenth century it was reunited to the empire of Constantinople, by the arms of Zimisce; but it soon after fell into the hands of the Seljukian Turks, under whose sway it remained during the time of the Crusades. It suffered considerably during the irruptions of the Mongols, in the thirteenth century, and again, by the wars of Tamerlane, or Timur Bec, in the fifteenth. Selim I. annexed it, in 1516, to the Turkish empire, of which it continued a part till 1832, when it opened its gates to Ibrahim Pacha, without a summons. Its political revolutions, with the exception of its two captures by the Tartars, affected its prosperity only temporarily and in a slight degree; but the discovery of a passage to India by the Cape of Good Hope struck a deadly blow at its greatness. Since that event it has continued to decline, and the earthquake of 1822, together with the wars which have distracted Syria, by causing extensive emigrations, have reduced it to comparative insignificance. Its capabilities are, however, very great, and under judicious treatment it is more than probable it would speedily regain a considerable share of its former prosperity. It is the most convenient centre for the trade between Persia and the interior of Arabia, on the one hand, and Asia Minor and Armenia on the other: it is, beyond all comparison, the cleanest and most agreeable town in Syria; and still, even amid its ruins, better built than almost any other between the Black Sea and the Euphrates; its inhabitants, a great proportion of whom are sheriffs (descendants of the Prophet), are the mildest and most tolerant among the professors of Mohammedanism. These circumstances have made it the resort of strangers, and they are not likely, in peaceable times, to have less influence in future.

Aleppo formerly possessed several manufactures, and before the earthquake, it was said to contain

12,000 artisans, chiefly weavers of gold and silver lace, silk and cotton goods, and shawls. These works are now languishing, but they still exist, and, with the pistachio nuts, form the chief part of its remaining trade. Its imports are goats' hair, from Asia Minor; gall nuts, from Kurdistan; and Indian goods, such as shawls and maulins. From Europe, it receives cotton stuffs, cloth, sugar, dye stuffs, &c.; W. I. coffee, though a prohibited article, is also introduced, and is cheaper than that of Mocha. Within the last few years Aleppo and the surrounding district have shared in the prosperity which the wide-spread demand for cotton, consequent on the stoppage of supplies from the United States by the great civil war, produced in many different countries of the world. The demand for native manufactures, especially for the supply of the Egyptian markets, also increased. (Report on the Trade of Aleppo; Consular Reports Jan. to June 1864.)

ALESSANDRIA, or ALEXANDRIA, an important town and fortress of North Italy, prov. of the same name, in a marshy country on the Tanaro, near where it is joined by the Bormida, 47 m. ESE. Turin, and 38 m. NEN. Genoa. Pop. 56,545 in 1861. The town has a very strong citadel, and was surrounded by Napoleon with extensive fortifications, demolished at his downfall. Of late years, however, it has risen again into importance. There are extensive barracks and armouries, and, next to Verona, Alessandria is now the strongest place in Italy. It is the centre of five lines of railways, spreading in as many different directions. The town is well built; has a cathedral, numerous churches, palaces, and hospitals; a handsome town-house, with a gymnasium, theatre, public library, and large barracks. It has manufactures of silk, cloth, and linen, and some trade. The latter is promoted by its two fairs, held the one at the end of April, and the other on the 1st of October; they are both well attended, not only by Italians, but also by French and Swiss merchants. Alessandria was founded in the twelfth century, and has frequently been taken and retaken. It has always been reckoned one of the bulwarks of Italy on the side of France. The village and battle-field of Marengo lie a little to the E. of the town.

ALEUTAN, or ALEUTIAN, ISLANDS, a chain of islands in the N. Pacific ocean, stretching from the peninsula of Kamtschatka, in Asia, to Cape Alaska, in N. America. They are very numerous, occupying a circular arc, extending from 165° to 195° E. long., whose chord is in 55° N. lat., and above 600 m. in length. Apparently, this insular chain consists of the summits of a range of submarine mountains. In 1795, a volcanic island rose from the sea, in the middle of the line, which, in 1807, was found to be enlarged to about 20 m. in circuit, and lava was then flowing down its sides. There are always amongst them several volcanoes in activity, and some, known to have emitted flames, are now quiescent. Earthquakes are common, and sometimes so violent as to throw down the huts of the inhabitants. Behring's Island, Attoo, and Onalashka, are the largest, the first being 104 m. in length, but many are only inconsiderable rocks. They are intersected by channels, various alike in width, and in the safety of navigation. All exhibit a barren aspect; high and conical mountains, covered with snow during a great portion of the year, being the most prominent features. Vegetation scanty; there are no trees nor any plants surpassing the dimensions of low shrubs and bushes. But abundance of fine grass is produced in the more sheltered valleys, and different roots, either indigenous or introduced recently. The seas abound in fish, and the feathered

tribes are numerous. The hunting the sea otter, whose skin affords a fur of the finest quality, was formerly carried on to a great extent; they were wont to be caught in thousands; but their indiscriminate destruction has greatly reduced the number of those now taken. The seal is particularly valuable, affording the inhabitants a constant supply both of food and clothing; the thin membrane of the entrails is also converted into a substitute for glass. Foxes are the principal quadrupeds. The natives are of middle size, of a dark brown complexion, resembling an intermediate race between the Mongol Tartars and North Americans. Their features, which are strongly marked, have an agreeable and benevolent expression. Hair strong and wiry; beard scanty; eyes black. They are not deficient in capacity, and the different works of both sexes testify their ingenuity. They are indolent, peaceable, and extremely hospitable; but stubborn and revengeful. Tattooing, which was common among the females, is on the decline, but they practise a hideous mode of disfiguring themselves, by cutting an aperture in the under lip, to which various trinkets are suspended. These deformities, however, are less common than when the islands were discovered, the more youthful females having learned that they are no recommendation in the eyes of their Russian visitors. A man takes as many wives as he can maintain; they are obtained by purchase, and may be returned to their relations; or the same woman may have two husbands at once; and it is not uncommon for men to exchange their wives with each other. Their subsistence is principally obtained by fishing and hunting. Their dwellings are spacious excavations in the earth, roofed over with turf, as many as 50 or even 150 individuals sometimes residing in the different divisions. Only a few of the islands are inhabited; but in former times the population is said to have been more considerable. Its decrease is ascribed to the exactions of the Russian American Company, who have factories in the islands. Its present amount has been variously estimated, at from a few hundreds to 10,000. The islands were partially discovered by Behring, in 1741.

ALEXANDRETTA. See ISKENDEROUN.

ALEXANDRIA (Arab. *Iskendariyyeh*), a celebrated city and sea-port of Egypt, so called from Alexander the Great; by whom it was either founded, or raised from obscurity 332 years a.c., about 14 m. WSW. of the Canopic, or most W. mouth of the Nile, on the ridge of land between the sea and the bed of the old lake Mareotis. Lat. of lighthouse 31° 11' 31" N., long. 29° 51' 30" E. Its situation was admirably chosen, and does honour to the discernment of its illustrious founder. Previously to the discovery of the route to India, by the Cape of Good Hope, Egypt was the principal centre of the commerce between the E. and W. worlds; and it so happens that Alexandria is the only port on its N. coast that has deep water, and is accessible at all seasons. It has not, it is true, any natural communication with the Nile, but this defect was obviated in antiquity by cutting a canal from the city to the river. After Alexandria came into the possession of the Saracens, this canal was allowed to fall into disrepair; and it was not to be supposed that any attempt would be made to reopen it, while Egypt continued subject to the Turks and Mamelukes. But Mehemet Ali, the late ruler of Egypt, being anxious to acquire a navy, and to revive the commerce of the country, early perceived the importance of Alexandria, both as a station for his fleet, and a centre of commerce. In furtherance of his views he greatly improved, beautified, and strengthened the city, and restored the ancient communication with the Nile

by means of the Mahmoudieh canal from Alexandria to Fouah, a distance of 48 m., opened in 1819. It is to be regretted that its construction is in several respects defective; but it is notwithstanding of great advantage. Alexandria is built partly on a peninsula, consisting of the island of Pharos, so famous in antiquity for the lighthouse or pharos, whence it has derived its name, and partly on the isthmus by which that island is now connected with the mainland. The principal public buildings, as the palace of the pacha, the arsenal, the hospital, &c., are on the peninsula, and the town principally on the isthmus. The ancient city was situated on the mainland opposite the modern town; and the vast extent of its ruins would sufficiently evince, were there no other evidences, its wealth and greatness.

Alexandria has two ports. That on the W. side of the city, called the old port, the *Eumostos* of the ancients, is the largest and by far the best. The entrance to it is narrow and rather difficult; but when in, ships may anchor off the town in from 22 to 40 feet water, and there is good anchorage in deep water all along the shore. The new harbour, or that on the E. side of the town, is very inferior, being comparatively limited, having a foul and rocky bottom, and being exposed to the N. winds.

A dry dock was constructed in the course of 1837. Naval and military hospitals have been established, the former under the direction of an English, the latter of a French doctor. A quarantine board exists under the direction of the consular body, to which the Pacha has confided this branch of service, and connected with which a large and commodious lazaretto has lately been erected outside the walls. Vessels arriving from any of the infected ports of the Levant, are subjected to quarantine, the same as in Europe; there is also a school for the marine, and a board composed of the admirals and higher officers of the fleet, for examining into the merits of candidates, maintaining the discipline and regulating every matter connected with that branch of service. The French system has been adopted in every department of the service, and to the French the Pacha was chiefly indebted for the advances he made.

On the peninsula has been erected the *Schwna*, or range of warehouses for the reception of the surplus produce of Egypt, and hither it all comes, with the exception of that exported from Suez and Cosseir, for the maintenance of the army and fleet in the Red Sea. According to the late Pacha's monopolising system, the whole produce of the country came into his hands, at prices fixed by himself, without the option of resorting to other markets being allowed to the grower. And not only did this apply to the produce of Egypt, but to that of the adjacent countries, wherever the Pacha's influence extended, embracing the coffee of Mocha, the gums and drugs of Arabia, the tobacco of Syria, elephants' teeth, feathers from the interior, &c., all of which were purchased for him in the first instance, the prohibition of trading in them applying to every one, and carrying with it the risk of confiscation, if contravened;—the whole of this produce, native as well as exotic, being collected in Alexandria was sold by public auction, in the same way exactly as auctions are conducted in Europe, the upset price being fixed according to the latest report of the markets, the merchant having the privilege of examining the article in the *schwna* before the sale, and being required to pay in cash the price at which it was knocked down to him within a limited number of days when delivery took place. The principal articles thus disposed of were cotton,

which was by far the largest, rice, opium, indigo, gums, coffee, senna, hemp, linseed, and the *comestibili* of the country, wheat, barley, beans, lentils, &c. But this system is now much modified. During the ascendancy of Mehemet Ali, every other branch of industry was sacrificed to the raising of cotton; but since his demise a more rational system would appear to be followed, though the stimulus caused by the failure of the cotton supplies from the United States again caused, in late years, the revival of the cotton culture. The greater part by far of the trade of the port is carried on with England, but she has also a considerable trade with Marseilles, Trieste, Constantinople, Leghorn, the Isles of the Archipelago, &c.

According to the report of the Alexandrian custom-house, it appears that, during the year 1861, the total value of the exports from Egypt to all parts was 2,638,822*l.*; but a very great increase has since taken place. The exports of cotton to Great Britain alone amounted in 1862 to 3,723,440*l.*; 1863, 8,841,557*l.*; and in 1864 to 14,800,507*l.* The imports in 1862 from Great Britain, of British and Irish produce and manufactures, amounted to 2,405,982*l.*; in 1863 to 4,416,240*l.*, and in 1864 to 6,070,221*l.* England of course had by far the largest share of both the import and export trade. The quantities of cotton exported to Great Britain were, in 1862, 526,897 cwts.; 1863, 835,289 cwts.; and 1864, 1,120,479 cwts., so that the increase in value has been much greater than in quantity.

The exports from Egypt of other articles in which there has been less variation were, in 1861,

	Value		Value
Wool . . .	£28,317	Gums . . .	£94,380
Beans . . .	207,348	Ivory . . .	38,995
Wheat . . .	379,724	Rice . . .	125,894
Barley . . .	56,140	Cotton seed . . .	45,336
Indian corn . . .	45,574		

The imports from Great Britain in 1864 included cotton manufactures of the value of 2,492,962*l.* stg., the amount in 1863 having been 1,810,186*l.* The principal other imports from Great Britain were machinery, iron, woollen and silk goods, hardware, timber, drugs, and other colonial products, and coals, besides the quantities imported for the use of the Peninsular and Oriental Steam Company and of the East India Company's steamers at Suez.

There is no doubt that the population has trebled or quadrupled since the opening of the Mahmoudieh canal, and it is still on the increase. It might amount in all, in 1863, to 150,000, including troops and artisans in the arsenal. A good deal of this increase has taken place at the expense of Rosetta, which has latterly very much declined. The population of Alexandria is of a mixed character, consisting, besides the native Turks and Arabs, of Armenians, Greeks, Smyrniotes, Syrians, Moghrebins, or men from the Barbary states, Maltese, Jews, and Europeans of almost every nation, in such numbers, that it may be questioned, whether the strangers, in a commotion, would not be more than a match for the natives. The English have numerous commercial houses; as have also the French, Italians, and Greeks. Amateur French and Italian theatres exist, the performances in which rival those of the Académie Royale and San Carlos; balls and routes are given in the most approved style of fashion; a commercial journal has been established in the Italian language, which however does not treat of politics; French *modistes*, tradesmen in all departments, and shops displaying every article of furniture, and of male and female attire, from the Parisian bonnet of the latest fashion to the very humblest article of dress, all conspire, in conjunction with the style of the

buildings, and pretty equal balance of hat and turban, to take away from this place the appearance of an Oriental city; and it is only after leaving it, and pursuing his way to Cairo, that the stranger truly feels that he is in the East. Here also exist Catholic and Greek convents, where divine service is performed on Sundays and holidays to the people of those persuasions: the Armenians, Syrian Christians, and Jews have also places of worship, Protestants alone being without a temple. There is little intercourse between the natives and Franks, except in the way of business. They occupy distinct quarters of the city, the former secluding their families, and maintaining all the reserve of Oriental life, the siesta, pipe, and coffee filling up three-fourths of their time; the latter adhering to the customs of their own country, in dress, furniture, the use of carriages and horses, and indeed in all things but the siesta, the pipe, and immuring themselves during the heat of the day, wherein they imitate the Orientals. Latterly also, after the example of some of the higher Turks, several of the richer Frank merchants have obtained grants of land from the Pacha, on the banks of the canal, and built houses and made gardens, which serve to beautify and give interest to the neighbourhood.

The Turkish quarter of the city consists of a number of narrow, irregular, tortuous, filthy and ill built streets and bazaars, with hardly any good houses but those of the Pacha's officers, and without a single public building, mosque, or other object worthy the least attention, the bazaars being mean, and but very indifferently provided. The Frank quarter, on the other hand, presents several streets of well built substantial houses, with good shops; in particular the square, which is the residence of the consuls and principal merchants, called the Piazza Grande, that may well bear comparison, for the size and style of its buildings, with some of the best streets of Paris or London. Ibrahim Pacha owned the greater part of these houses, which he built on speculation, and for which he drew rents, varying from 200*l.* to 240*l.* per annum. The whole town is built of stone and brick, dug up from the foundations of the ancient city.

During part of the year Alexandria is supplied with water from the canal; and during the other portion, from the cisterns of the ancient city (the only portion of its public works that has been spared), which, at the period of the inundation, when the canal is full, are thence filled, and to which recourse is only had, when the water of the canal, by being stagnant, becomes unfit for use. As the inundation advances, the old stagnant water is run off into the sea, and the canal being filled brim full with fresh, is shut up at both ends, and so remains till the following year, serving in the meantime for navigation, for the use of man and beast, and for the irrigation of those small portions of land on its banks, that have been reclaimed from the desert, and brought into cultivation. The climate of Alexandria is considered very salubrious, the heats of summer, which rarely exceed 85° Fahr., being tempered by the Etesian, or NW. winds, which prevail for nine months of the year. In winter, a good deal of rain falls, which, however, is confined to the coast, and is probably the cause, coupled with the wretched habitations and misery of the poorer classes, why the plague so often makes its appearance here. Were the labouring classes better clad, housed, and fed, there is little doubt that this scourge would soon be no longer heard of.

The municipal government of the city is entrusted to the governor, who has under him a commandant de place, and an officer, called the

Bashaga, or chief police magistrate, whose duty it is to see that order and quiet are maintained. The city is besides divided into quarters, over each of which a sheikh presides, who is responsible to the governor for the peace of his district: and moreover, each trade and profession has its sheikh, whose duty it is to collect the taxes, and to see to the good behaviour of the members. Guard-houses are also distributed all over the city, and the military are instructed to take all riotous and disorderly parties into custody, the officer of the guard, if the offender be a native, having authority to inflict summary punishment by the bastinado; but if a Frank, he must send him to his own consul, to be punished according to the laws of his own country. The system works so well, that a more orderly place, or one freer from riot or crime, is rarely to be seen; indeed, when crime is committed, it is usually by Frank upon Frank; and then, from defects in the consular system, it almost always escapes detection. Besides the Bashaga, or police court, there is the Meh-kemeh, or Kadi's court, where all civil questions between natives are determined; and a commercial court, with Frank judges, but presided over by a Turk, for deciding questions between the Franks and natives, where the latter are defendants: the Franks themselves, besides exemption from all taxes and burdens of every sort, being amenable only when defendants to their own consular courts, and to the laws of their respective countries. These immunities have been secured to the Franks by convention with the Porte, and are rigidly insisted upon here as well as in every other part of the Turkish empire.

Alexandria, as every one knows, has recently acquired an unusual degree of importance from her having become the central and principal station in the overland route to India. Her port is now regularly and frequently visited by steamers from England, Marseilles, and other places. Her hotels and streets are crowded with passengers going to or returning from India, Ceylon, the Eastern Archipelago, Australia, &c. She has, in consequence, become the centre of a considerable transit trade; and the influx of so many visitors has not only added greatly to her wealth, but it has, at the same time, given a powerful stimulus to industry and civilisation in all parts of Egypt. Alexandria is now connected by railway with Suez and the sea-bathing village of Ramleh, 7 m. distant, as well as with Cairo, 130 m. distant. The shortest sea-route, from Southampton to Alexandria, is 2,960 m., the average time by steam 11 days.

History.—The Ptolemies, to whom Egypt fell on the demise of Alexander the Great, made Alexandria the metropolis of their empire; and it became, under their liberal and enlightened government, one of the greatest and most flourishing cities of antiquity. When it was annexed by Augustus to the empire of Rome, it is said to have occupied a circumference of 15 miles, and to have had 300,000 free inhabitants, besides slaves, who were probably quite as numerous. It was regularly and magnificently built; and was traversed by two great streets, each more than 100 feet across, and the larger extending more than 4 m. from E. to W. Under the Ptolemies and the Romans, Alexandria was the entrepôt of the principal trade of antiquity, being the market where the silks, spices, ivory, slaves, and other products of India, Arabia, and Ethiopia, and the corn of Egypt, were exchanged for the gold, silver, and other products of the W. world. The inhabitants were distinguished by their industry; either sex and every age were engaged in laborious occupa-

tions, and even the lame and the blind had employments suited to their condition. Among the principal manufactures were those of glass, linen, and papyrus, the paper of antiquity. Under the Roman emperors, Egypt became a principal granary for the supply of Italy; and its possession was reckoned of the utmost importance, and watched over with peculiar care. Various privileges and immunities were conferred upon Alexandria; many of her inhabitants were admitted to the rights of Roman citizens, and her wealth and prosperity continued undiminished.

But Alexandria was still more distinguished by her eminence in literature and philosophy than by her commerce and riches. The foundation of her pre-eminence in this respect was laid by the Ptolemies, who founded the museum and library (*'elegantia regum curaque egregium opus,'* Livy), that afterwards became so famous, at the same time that they gave the most munificent encouragement to literature and learned men. This patronage being continued by the emperors, Alexandria was, for several centuries, a distinguished seat of science, literature and philosophy. Generally, however, her literati were more distinguished for learning and research than for original genius. She produced a host of grammarians and critics; and the names of Euclid, Apollonius of Perge, Ptolemy, Eratosthenes, Nicomachus, Herophilus, Zopyrus, &c., are but a few of those most distinguished in the schools of geometry, astronomy, geography and medicine, that flourished in Alexandria. But her philosophy was the most striking feature of Alexandria, in a literary point of view. The influx of doctrines from the E. and W. schools produced a singular conflict of systems; which ended in an attempt of the philosophers Ammonius, Plotinus, and Porphyry, to establish an eclectic or universal system by selecting and blending doctrines taken from the principal existing systems, particularly from those of Pythagoras and Plato. Christianity was not exempted from the influence of this spirit; and on its introduction, it was strangely alloyed with Platonism; and principles for expounding of its doctrines were laid down that would now be with difficulty admitted.

The schools of geometry, astronomy, physics, and other branches of science, maintained their reputation till A.D. 640, when, after a siege of 14 months, Alexandria was taken by Amrou, general of the caliph Omar. The conquerors were astonished by the greatness of the prize; and Amrou, in acquainting the caliph with its capture, said, 'We have taken the great city of the West. It is impossible for me to enumerate the variety of its riches and beauty; and I shall content myself with observing, that it contains 4,000 palaces, 4,000 baths, 400 theatres or places of amusement, 12,000 shops for the sale of vegetable food, and 40,000 tributary Jews. The town has been subdued by force of arms, without treaty or capitulation.'

It was on this occasion, that the famous library is said to have been destroyed, conformably to the fanatical decision of the caliph, that 'if the writings of the Greeks agreed with the book of God, they were useless, and need not be preserved; if they disagreed, they were pernicious and ought to be destroyed.' This barbarous judgment being carried into effect, the books and manuscripts were distributed among the 4,000 baths belonging to the city; and so prodigious was their number, that six months are said to have been required for their consumption. Such is the tale that has so often excited the indignation and regret of scholars and the admirers of

ancient genius. But Gibbon has shown that it has no good foundation: it rests on the solitary statement of Abulpharagius, who wrote six centuries after the event, and is not noticed by those more ancient annalists, who have particularly described the siege and capture of the city. It is, besides, repugnant to the character of the caliph and his general, and to the policy of the Mohammedans. Even if it did occur, the loss has been much exaggerated. Great part of the library of the Ptolemies was accidentally consumed by the fire which took place during the attack on the city by Caesar; and either the whole, or the principal part of the library subsequently collected was destroyed A.D. 389, when the temple of Serapis, the most magnificent structure of the city, was demolished by the enthusiastic zeal of the Christians.

Alexandria continued progressively to decline till, in 1497, its ruin was consummated by the discovery of the passage to India by the Cape of Good Hope. But there can be no doubt, as previously stated, that it is destined to recover a large portion of its ancient importance. It has necessarily become the centre of the communications carried on by steam between Europe and India.

The cisterns which, as already seen, are still in pretty good preservation, are the principal monuments of the ancient city that have outlived the injuries of time, and the ravages of barbarians. The catacombs are also comparatively entire. The magnificent column, improperly called Pompey's Pillar, seems to have been erected in the reign of Diocletian: its shaft consists of a single block of granite, 68 feet in height. Two obelisks, vulgarly called Cleopatra's Needles, of which only one is erect, are said to have formed the entrance to the palace of the Cæsars.

ALEXANDRIA, a city and port of entry of the United States, dist. Columbia, on the W. bank of the Potomac, 6 m. S. Washington. Lat. 38° 49' N., long. 77° 18' W. Pop. 12,652 in 1860. It is well built, the streets crossing each other, at right angles, and it has commodious harbour with deep water, the largest ships coming close to the wharfs. Railways connect the city with New York, Boston, and all the important towns of the United States.

ALEXANDROVSK, a town of Russia in Europe, gov. Ekaterinoslaff, cap. district on the Dnieper at the bottom of the cataracts, 140 m. N.E. Cherson. Pop. 4,217 in 1858. It is fortified, and displays considerable activity from its being the place where merchandise conveyed from Ekaterinoslaff by waggon, to avoid the cataracts in the river, is again shipped.

ALFARO, a town of Spain, prov. Soria, on the banks of the Alama, close to its junction with the Ebro, 12 m. W. by N. Tudela. There is a military road between this place and Logrono. Pop. 5,043 in 1857.

ALFELD, a town of Hanover, prov. Hildesheim, at the conflux of the Leine and Warne, and at the railway from Hildesheim to Gottingen. Pop. 2,700 in 1861. The town has paper and oil mills. Flax and hops in considerable quantities are grown in the neighbourhood.

ALFRETON, a par. and m. town of England, co. Derby, hund. Scarsdale, 16 m. NNE. Derby. Pop. of town 4,090, and of parish 11,549 in 1861. The inhabitants of the town are principally employed in the manufacture of stockings and earthenware, and in the adjoining collieries.

ALGARINEJO, a town of Spain, prov. Granada, close to the frontiers of Cordoba, near the right bank of the Genil, in a country whose abundant and

fertilising streams fall into that river. Pasturage and tillage form the chief business of the population. Pop. 4,383 in 1857.

ALGARROBO, a town of Spain, prov. Granada, 2 m. from the Med. Sea, in the midst of a country particularly rich in lemons, oranges, figs, and other fruits belonging to the south of Spain. 16½ m. E. Malaga, and 38 m. SSW. Granada. Pop. 2,954 in 1857.

ALGARVE, the most S. prov. of Portugal, which see.

ALGECIRAS, or *Al-Djézireth*, the *Carteia* of Roman geography, a town of Spain, prov. Cadiz, on the W. side of the Bay of Gibraltar, opposite to the celebrated rock and peninsula of that name, from which it is distant about 7 m. by water, and 17 m. by land. Lat. 36° 8' N., long. 5° 31' 7" W. Pop. 14,229 in 1857. The town has a good harbour and some trade in the export of coal. It was built by the Moors, and taken from them after a two years' siege, in 1844.

ALGHERI, or ALGHERO, a town and seaport of the island of Sardinia on its W. coast, 15 m. SSW Sassari; lat. 40° 25' 50" N., long. 8° 16' 45" E. Pop. 8,419 in 1861. The town is built on a low rocky point, jutting out from a sandy beach, in the shape of a parallelogram with stout walls flanked by bastions and towers: the walls are in good repair; but being commanded by two heights it could not oppose any vigorous attack from the land side. To the SW. of the town there is tolerable summer anchorage in from 10 to 15 fathoms, good holding-ground. Though narrow, the streets are clean and well paved. It is the seat of a bishopric, has a cathedral and 12 churches and convents, with public schools which carry their scholars through a course of philosophy; and a surgical institution. It has a small theatre. The town was long occupied by the Spaniards, and their language and manners still prevail. The country round is well cultivated, producing wine, butter, and cheese. In addition to these the exports consist of wool, skins, tobacco, rags, anchovies, coral, and bones.

ALGERIA, now frequently called ALGERIA, a country of N. Africa, and till recently the most powerful of the Barbary states, comprising the *Numidia* Proper of the ancients, or the *Numidia* of the *Massyli* and the *Numidia Massasylis*, afterwards called *Mauritania Cæsariensis*, with some portion of the region S. of the greater Atlas anciently inhabited by the Getulæ and Garamantes. It has been since 1830 in possession of the French; but for more than three centuries previously it formed a subordinate part of the Turkish empire, and was during that period the seat of an extensive system of piracy and Christian slavery.

Situation, Extent, Boundaries.—Algeria lies between 29° 11' W. and 8° 58' E.; its greatest N. lat. is 37° 5'. It is bounded N. by the Mediterranean, W. by Fez (Morocco), and E. by Tunis; its S. boundary is doubtful, but it extends beyond the greater Atlas range to the confines of the desert of Sahara: it is above 500 m. in length; its breadth, which is greater in the E. than in the W., varies from about 40 to about 200 m. The population, in 1861, amounted to 2,999,124 souls, namely, 2,806,378 natives; 10,000 negroes; 80,000 Jews; and 192,746 Europeans. A later estimate (1863) makes the number of Europeans 213,000. Algeria is divided into three great military provinces—that of Algiers in the centre, Oran in the west, and Constantine in the east. The civil territory of each forms a department, having at their head a prefect, and subdivided into sub-prefectures, viz. in the department of Algiers, Blidah, Médéah, Milianah; in the department of Constantine,

Bona, Philippeville, Guelma, Sétif; in that of Oran, Mostaganem, Mascara, and Hemcen. The remainder of the territory is in each province administered by the military authority. The civil territories are generally understood to include only the *Tell*, or land N. of the greater Atlas, excluding the territories of Zaab or Wad-reag, S. of that range.

Mountains.—Algeria is mostly mountainous: the little Atlas, which runs along the coast parallel to the greater Atlas, varies from 8,000 to 4,000 ft. in height. The abrupt mountains of Titteri, belonging to the greater Atlas, reach in some points to an elevation of 9,000 ft., and send off three principal ridges: NW. towards Cape Ivry; N. towards Algiers; and NE. towards Bugia. Many of these mountains are remarkable; as Wannashree (*Zalacus*), prov. Oran, very lofty, and Jurjura, SE. of Algiers, both capped with snow during winter; the Titteri Dosh, or rock of Titteri, is also a remarkable ridge of rugged precipices.

Plains.—The principal is that of Metidjah, immediately S. of Algiers, 50 m. by 20; fertile, well watered, and covered with an abundant vegetation, but in parts marshy and unhealthy. In the W. prov. are several plains, especially that through which the Shelliff runs; and another SW. of Oran, sandy and saltish, dry in summer, but inundated in winter. In the S. prov. are the rich plains of Hamza, watered by the Nasava. Many luxuriant plains are found in the E. prov., as those of Sétif, Majanah, and that skirting most part of the E. coast, which is, however, in many parts marshy. (Shaw, pp. 24, 37, 44, 47, 50, 53.)

The Rivers are separated by the greater Atlas range into those which run N. and S. Of the former, or those which discharge themselves into the Mediterranean, the principal is the Shelliff (an. *Chinalaph*), which rises S. of the Wannashree M., and after a tortuous course of 200 m., during which it passes through the Titteri Gawie or lake, falls into the sea under Cape Jibbel Iddia. In the rainy season it overflows its banks, and interrupts the communication between Algiers and Oran. The Wad-el-Kebeer (an. *Ampaga*), which falls into the sea, N. of Constantine, in 6° E. long., is the second in magnitude; the others are the Seibous, orriver of Bona, the Boobera, Yissa, Zowah, Wad-y-Zaine, &c. The large rivers, the Adjedj and Abiad, run SE., and empty themselves into the *Meligi* Lake; and several rivers of inferior dimensions empty themselves into the *Shott*. These are two very extensive salt marshes; the former on the S. the latter on the N. side of the greater Atlas: they consist partly of a light oozy soil, as dangerous as quicksands to travellers. The lakes are those of Titteri; two near Oran, which dry in summer, and from which salt is collected; some salt marshes near Cape Matifou, and others along the coast from Bona to the borders of Tunisia. (Rozet, p. 19; Shaw, p. 55.)

Climate.—The climate of the Tell, i. e. between lat. 34° and 37°, is generally wholesome and temperate. Shaw states that for twelve years during his experience it only froze twice at Algiers; yet the heat was never oppressive unless during S. winds. The mean temperature of the year at Algiers is 70° F., in July and August about 86° F.; but ranging occasionally during the prevalence of the khamsin, simoom, or hot wind from the Sahara, as high as 110°, or even more. Luckily, however, the latter seldom or never continues for more than 5 or 6 days at a time, and rarely occurs except in August or September. In winter the temperature is usually from 55° to 65° F. The heat is mitigated by the N. winds, which with the E. prevail during summer. About the equinoxes

violent SW. winds occur; NW. winds are common from November to April, at which time storms and showers of rain are most frequent; but in summer these winds bring dry weather; the E. and S. winds are also dry, and quite unlike what they are on the opposite European coasts. The barometer varies only from 29 and 1-10th to 80 and 4-10ths in. There are about 50 wet days during the year, chiefly in March, along the coast and on the lesser Atlas. The quantity of rain varies greatly in different years; but, at Algiers, it may average from 27 to 28 inches: little falls during summer. Dew is abundant, and the air on the coast is damp. At the end of December the trees lose their leaves; but by the middle of February vegetation is again in full activity, and the fruit is ripe in May. (Shaw, pp. 138-136; Rozet, i. pp. 140-149; D'Avizac, art. 'Alger.') The atmosphere is very clear and the country healthy, excepting in the marshy districts. Of late years Algeria has come much in vogue as a residence for invalids.

Geology and Minerals.—The primary rocks consist in part of granite, but chiefly of gneiss and micaceous schist. Travertine is found on the coast; near Oran a greyish quartz, but no volcanic rocks; in the interior a lime formation often alternates with a schistose marl. The secondary deposits consist in many places of a lias formation and calcareous strata, containing few organic and no vegetable remains. At Oran the lime contains bivalve, but no univalve shells. The tertiary deposits are mostly calcareous, in the Metidjah of a yellowish grey colour; sometimes a blue clay enclosing a laminary gypsum and a little iron, in other parts sandy and much impregnated with salt. All the chain of Atlas has a tertiary clay deposit. The W. province appears to be the richest in minerals. Salt is extremely abundant, in springs and beds, on both the E. and W. frontiers; near Constantine, the Titteri Dosh mountains, and the Melgigg and Shott marshes. The salt pits near Arzew occupy a space of 6m. circ., forming marshes in winter which dry in summer, when large quantities of salt are collected. Nitre, though not found pure, is very plentiful in the W. province, Getulia, &c. Iron is most abundant. Copper is found in various places; and there are some very rich lead mines, the ore of those of the Wannashrees being said to yield 80 per cent. of pure metal. There are also fullers' earth, potters' clay, talc, pyrites, &c. Diamonds (verifying what was reckoned the apocryphal statement of Pliny, Hist. Nat., lib. 37, § 4) have been found in the sands of the Wad-el-Kammel that runs by Constantine, mixed with small quantities of gold dust, silver, tin, and antimony. Saline hot and cold springs are exceedingly abundant, more so, in fact, than those of fresh water. The latter, however, are by no means rare, and may everywhere be found by digging through a crust of flaky soft stone lying at different depths, but near Algiers and Bona immediately below the surface of the ground. (D'Avizac, art. 'Alger.')

Vegetation in the N. parts of Algeria is nearly the same as in the S. parts of Spain, Provence, Italy, and the rest of the Mediterranean shores. The mountains of the little Atlas are covered with thick forests, in which are found *five* different varieties of oak, the Aleppo pine, the wild olive, the shumac tree (*Rhus cotinus*), with arbutus, cypress, myrtles, &c. S. of the greater Atlas are found the date-bearing palm, and other trees belonging to a warmer climate. The Algerian Sahara is far from being a perfect desert. There are multitudes of oases, full of towns and villages, surrounded by olives, figs, vines and palms.

Animals.—Lions of great size and strength,

panthers, hyenas, and leopards, inhabit the mountainous recesses of the greater Atlas, but are never seen near Algiers: wild boars, wolves, and jackals are more common, and there are a few bears. Wild cats, monkeys, porcupines, and hedge-hogs are more or less abundant; as well as antelopes and other species of deer, hares, gennets, jerboas, rats, mice, &c. The useful animals are horses, asses, black cattle, sheep, camels, dromedaries, &c. Ostriches are found in the desert on the confines of Morocco; there are also vultures and other large birds of prey; bitterns, curlews, lapwings, plovers, pigeons, and snipes; with great plenty of game and small birds. Some serpents of the Coluber race are met with; and lizards, chameleons, and other amphibia. Tunny and other sea fish abound on the coasts; barbel, perch, eels, &c., are found in the fresh waters, and even in the warm saline streams; conger at the mouths of the rivers; and lobsters and many other crustacea along the shores. Among the insect tribe are scorpions and tarantulas. Locusts seldom commit the same devastations here as in Egypt and Syria. Coral, which is very abundant on the coasts, forms an important article of produce and industry: it is of a larger sort, but less vivid in its colour, than that of Sicily. (Rozet, vol. i. p. 218; Shaw, p. 192; Campbell, Letters from the South.)

People.—There are nine distinct races of inhabitants, viz.: 1st, Berbers or Kabyles, who, however, call themselves *Mazigh* (noble) or *Mazerg* (free); they constitute about half the entire population, and are the lineal descendants of the aboriginal inhabitants of the country. They are principally found in the mountain districts; and their lands are occasionally well cultivated and irrigated. 2d, Biskeris or Mozabs, supposed to be the descendants of the Getulae, living principally S. of the greater Atlas, and comparatively industrious. 3d, Moors; a mixed race, descended from the Mauritanians, Berbers, Carthaginians, Romans, Vandals, and Arabs; they constitute the bulk of the population of the towns and villages. 4th, Arabs, consisting of three tribes: the first, supposed to have descended from the ancient Amalekites, is nearly extinct; the second consists of cultivators of the soil, and is fixed to certain spots; the third, or wandering Arabs, are principally herdsmen and shepherds dwelling in tents. 5th, Negroes, called *Abyd* (slaves) or *Soudan* (black); originally brought thither from the interior, and sold as slaves. 6th, Jews, who form a third part of the inhabitants of Algiers, and a fourth part of those of Oran. 7th, Turks, now very few, nor ever very numerous, although long the dominant race: they were a heterogeneous body, composed of genuine Turks, Greeks, Circassians, Albanians, Corsicans, Maltese, and renegades of all nations, mounted, and forming a militia similar to the Mamelukes. On the conquest of Algeria, in 1830, by the French, the Turks being permitted to withdraw, evacuated the country to the number of about 20,000. 8th, Kolouglis, or descendants of Turks by Moorish mothers, their name literally signifying 'sons of soldiers.' Although possessed of influence, they did not formerly enjoy the same rights and consideration as their fathers. 9th, Europeans, who may of course be subdivided into various nations, but are mostly French. Amongst the Kabyles of the Aureas are a tribe distinguished by a fair complexion, blue eyes, and light hair, believed to be descendants of the Vandals. Traces of the Huns, Suevi, and other Gothic nations have been also found. (For further information respecting the different native races, see ARABIA, BARBARY, AND MOROCCO.)

Scenery.—Proceeding from W. to E. a rich champaign country stretches for some distance inland S. of Arzew, bounded towards the sea by steep rocks and precipices; many fertile plains are irrigated by the Sigg river (or *Sikk*, a drain or trench), its waters being diverted by numerous canals for that purpose. Behind Masagran, and near the Shelliff, as far as the sea, is a tract studded with orchards, gardens, and country houses. The country round Shershell is of the most exuberant fertility, possessing large tracts of arable land, and the mountains covered to their summits with plantations of fruit trees, and affording delightful and extensive prospects. The inland parts of the W. province present alternately fertile valleys and high ranges of rocky mountains. 'If we conceive,' says Shaw, 'a number of hills, usually of the perpendicular height of 400, 500, or 600 yards, with an easy ascent, and several groves of fruit and forest trees rising up in a succession of ranges one behind another, and if to this prospect we here and there add a rocky precipice of a superior eminence and difficult access, and place upon the side or summit of it a mud-walled Dashkerah, or village of the Kabyles,—we shall then have a just idea of the atlas bounding the Tell.' The verge of the Sahara beyond this presents nothing but scattered villages and plantations of dates. The plain of Metidjah, adjoining the capital, contains many farms and country houses, producing in perfection flax, henna, roots, pot-herbs, rice, fruit, and corn of all kinds; it is adorned besides with multitudes of oleanders, geraniums, passion flowers, and other luxuriant shrubs. The S. province has the same general character as that of Oran. The Titteri Dosh, 20 m. S. of Medeah, is a towering range of bleak precipices. The Jurjura, S.E. of Algiers, is a similar tract. The sea coast of the E. province, as far as the river Zooore, is mountainous, and called by the Arabs El-Adwah (the Lofty): thence to the Seibous it is hilly; and from the latter to the border mostly level, and sometimes covered with forests. Some distance to the S. are the *M. Thames* of Ptolemy. The Seibous in some parts wanders through beautiful valleys, clothed with olive trees, lentisks, and a fine turf. The country about the source of the Zenati is broken and irregular, and appears to be volcanic; that to the N. and N.W. of Constantine, from which that city is chiefly supplied, is watered by the Rusuli, which is 'bordered by a few villas and numerous gardens, rich in every variety of vegetable and fruit trees, with extensive groves of pomegranate, olive, fig, orange, and citron,' and bounded by bold ranges of hills; its fruit is esteemed over the whole province. In the road from Algiers to Constantine, between the plains of Hamza and Majanah, a deep narrow pass, called *Beeban* (the Gates), which a few men might defend against an army, leads through a mountain ridge; and a little farther E. the road is carried by a dangerous track over the crest of a high mountain. S. of Sétif are many rich plains. The territory around Tifesh is the most fruitful in Numidia, and the W. province the finest of the regency. The villages of Zaab are collections of dirty hovels, surrounded by date plantations; Wad-reag, a similar country, has 25 villages. To the W. extends the vast region of Blaid-el-Jerride, 'a dry country,' abounding in dates. (Shaw, pp. 14-68; Sir G. Temple, Extracts in the Geograph. Journal, 1838, part. ii.)

Antiquities.—Most of the cities and towns bear names little altered from those given them by the Romans. Many ruins remain; those of Tipasa (Tifessad), 13 m. E. of Shershell, stretch for two miles along the coast: on the brink of the Shelliff, in about the same lat., there are several classical

remains, Corinthian capitals, &c., probably the ruins of the Colonia Augusta of Pliny. About 14 m. E. of Algiers are the ruins of Ruscurium. At Maliana, N. of the Shelliff, a stone, inserted in a modern wall, bears an inscription, whence it has been inferred that it was the place where Pompey's grandson and great grandson were buried. (See Martial, Epig. lib. v. Ep. 75.) Near Bona are the ruins of *Hippo Regius*, and many towns can boast of ancient relics in tolerable preservation. The province of Constantine especially abounds with them, and with Roman roads; and even the remote district of Wad-reag has numerous remains of Roman masonry. Near the capital is a collection of unhewn stones, somewhat similar to those of Stonehenge, which the French call Druidic, but others believe to be Phœnician. There are few Christian remains, their buildings having been destroyed by the zeal of the Saracens. (Shaw, pp. 21-67.; Sir G. Temple, Extracts.)

Agriculture.—Much of the land is uncultivated and waste; but the fertility for which it was so famous in antiquity—

'Non quicquid Libycis terit,
Fervens arca mœsibus,—

still continues unimpaired; and requires merely the substitution of regular government for lawless violence, and of industrious colonists for roving herdsmen, to render it once more the granary of Europe. The land in many parts, owing to the quantity of salt with which it is impregnated, is so rich as to require no manure but burnt weeds. But in a dry climate like this every thing depends on the command of water; and the necessity under which the native inhabitants were placed of providing this indispensable element for their lands, had so far counterbalanced their indolence and want of science as to make them pretty expert in the art of irrigation. The French were not, at first, sufficiently alive to the vital importance of this; and some of the Arab works for irrigating were in consequence neglected, to the great injury of the province, but the mistake has latterly been repaired. The land is usually ploughed and sown in October, or (if with barley) in November; by the aid of April rains a good crop is thought secure, and the harvest takes place in the end of May, or the beginning of June, yielding at an average 8 or 12 for 1. The species of corn mostly grown are the *Triticum durum* (hard wheat), and *Hordeum vulgare* (common barley). Maize is not much cultivated, except in the W. province; white millet for fattening cattle is planted there; rice chiefly in the prov. of Oran. Oats not being grown, horses are fed wholly upon barley and straw. The plough used round Algiers is the same as that of Spain and Provence; but in general is not shod with iron. It is drawn by cows and asses, very rarely by horses; yet with such imperfect ploughing the crops are generally excellent. When reaped, the grain is trodden out by cattle or horses; and after being cleaned by throwing it up against the wind, is deposited in subterranean caves or magazines. The pulse crops are beans, lentils, kidney beans, pease, and garvanços (cicer pea); turnips, carrots, cabbages, &c., are good and plentiful. Endive, cress, spinach, and artichokes are in season from October to June; after which come calabashes, mallows, tomatas, and water-melons. Potatoes are frequently grown, but do not arrive at a large size, and are of inferior quality. The date is the principal fruit, and is by far the most valuable product of the country S. of the greater Atlas. It is propagated chiefly by young shoots, and yields fruit in its 6th or 7th year; it attains maturity at about its 30th year, and is in full vigour for 60 or 70 more, after which it gra-

dually declines, till it becomes extinct when about 200 years old. (Shaw, p. 142.) Truly, therefore, might Palladius say, '*Cui placet curas agere sacchorum de palmis cogitet conserendis.*' (Oct. 12.) During its maturity it yields annually from 15 to 22 cluster of dates, each weighing from 15 to 20 lbs. The date palm (*Phoenix*) when it dies is always succeeded by others from shoots or kernels; whence may probably have originated the fable or allegory of the bird Phoenix. The lotus or *seadra* bears a berry sold all over the S. district. Most of the fruit trees common to Europe are found in Algiers; but the fruits are inferior, excepting nectarines, peaches, and pomegranates; there are no hazel nuts, filberts, strawberries, gooseberries, or currants. The vine is cultivated with much advantage; the grapes ripen by the end of July, and are eaten both fresh and dry by the natives, who seldom make wine; though this, no doubt, will be attempted, and most likely with success, by the French. Oil of a very inferior quality, and always acrid, is obtained from the olive. Melons and Indian figs are largely grown, and form a considerable part of the food of the Arabs. In some grounds near Algiers the sugar-cane is cultivated. Cotton and indigo have been tried, and the climate suits them well. It appears from official returns that there were 3,274 hectares of land planted with cotton in the year 1863, in Algiers; that the crop amounted to 1,403,345 kilogrammes, and the value is estimated at 3,859,000 francs. During the years 1861 and 1862, the ground planted with cotton did not measure more than 1,426 hectares, and the value did not exceed 592,000 francs.

Cattle constitute the principal wealth of the natives. Sheep are of two kinds: one small, with a thick large tail; the other of a much larger size, chiefly found in the country of the Melano-Gétulæ. Sheep of the fine Tunisian breed are not met with. Goats pretty abundant; pigs few, round-bodied, short-legged, and generally black. Cattle usually black; their milk is inferior to that of European cattle; that of sheep and goats is mostly used in the making of cheese and butter. The Arabs seldom diminish their flocks by killing them for food, but live on their milk and wool. No animals are castrated. The common beasts of burthen are camels, dromedaries, asses, and mules. Dr. Shaw speaks of a singular cross breed between an ass and a cow, called *kumrah*, having a sleeker skin than its sire, no horns, but the dam's head and tail; but Rozet says that he had not been able to find any trace of any such animal. The horses are not always, nor even often of the pure Arab breed, nor altogether well shaped, being lanky and round-shouldered; head small, and not ill formed; ears erect; and they are hardy, fleet, spirited, and docile: those of Oran are accounted the best. They are used only for riding, and like the camels are reared and live in the tents with their owners. (Shaw, pp. 2-65, 166-170; Rozet, pp. 204-261; Campbell's Letters from S.)

Trades and Manufactures.—Almost all the trades of Europe are followed in the towns; but conducted in a very inferior manner, as well because of the indolence as of the ignorance of the natives. The Jews are the most industrious, and monopolise the greater part of the external trade, with the higher branches of art, being the chief jewellers, watchmakers, and tailors. The Arabs are merchants, tanners, and carpenters; the Negroes masons, bricklayers, and other artificers; the Kabyles extract iron, lead, and copper from their mountains, and manufacture gunpowder, said to be superior to that made at Algiers. The chief manufactures are coarse linen, woollen, and silk

stuffs, the first two forming the greater part of the dress of the population, leather, saddles, bridles, carpets, fire-arms, steel and other metal articles, pottery, gunpowder, but very inferior to that of Europe. Women only are employed in the linen and coarse woollen manufactures, as well as in the slavish occupation of grinding corn. European goods are much in request, and are bartered in the S. for gold dust and ostrich feathers.

Trade.—Previously to the occupation of Algeria by the French, the established rates of duty were 5 and 10 per cent. on imported articles, according to the stipulations in the treaties with the countries of which they were the produce. But these general rules were entirely disregarded in practice; and, in point of fact, little or no trade could be carried on except by those who obtained licences to that effect from government, which were either sold to the highest bidder, or to those who had most interest with the Divan. As soon as the French had taken possession of Algeria, the great resources of the country came to be developed. The imports, chiefly from France into Algeria, amounted to 7,000,000 frs., or 280,000*l.*, in 1831, and gradually rose to 40,000,000 frs., or 1,600,000*l.*, in 1844; to 81,234,447 frs., or 3,249,377*l.*, in 1854; and to nearly 4½ millions sterling in 1863. But the exports scarcely kept pace with this growing import trade. In the ten years from 1854 to 1863, Algeria never exported more than from 1½ to 2 millions sterling worth of her produce, nearly two-thirds of which went to France. However, the exports from Algeria to the United Kingdom greatly increased during the years 1860-3, owing chiefly to the sudden demand for cotton, produced by the American civil war. The exports amounted only to 1,572*l.* in 1860, and rose to 30,322*l.* in 1861; to 47,264*l.* in 1862, and to 104,204*l.* in 1863. On the other hand, the imports from the United Kingdom into Algeria declined during the same period. They were of the value of 43,754*l.* in 1860; of 20,955*l.* in 1861; of 46,253*l.* in 1862, and of 13,732*l.* in 1863. In addition to corn, or rather flour, the principal articles of importation are cotton, woollen, silk, and linen stuffs, but particularly the first; wines and spirits, sugar and coffee, arms, hardware, and cutlery.

The employment of shipping corresponds with the amount of trade; and the proportion of both in the hands of the French is increasing. A regular intercourse is kept up by means of steam-packets between Marseilles, Cette, Antwerp, Havre, and Algiers.

The weights, measures, and money in use are,

Weights.—The Onquyah (4 grammes); Rotl à thary = 16 onquyah; Cantar = 100 rothl.

Measures of Capacity.—**Liquid:** Hollah, (18-66 litres) = about 17 pints. **Dry:** Paa (48 litres) = 51 3-7th pints.

Of length: Dезд à Torik (840 millimetres) = 1.099 feet Eng.; Dезд à Baby (480 millimetres) = 1.574 feet long.

Money is as follows: *Gold*, Sequin = 8*l.* 6*d.* *Silver:* Monzonnah = 7-10ths of 1*l.*; Real Boudjoux = 24 monzonnah. *Copper:* Derhem Segur, 1-25th of a monz.

French money is now, however, in frequent use, and Spanish dollars worth about 3*s.* 4*d.*

Revenues.—It is impossible precisely to ascertain the amount of revenues at the disposal of the dey of Algiers previously to the French conquest; but it may be fairly estimated at about 3,000,000 fr., or 120,000*l.*, including therein 550,000 fr., or 22,000*l.* of tribute paid by Naples, Portugal, &c. for exemption from piracy; but it is probable that the taxes paid by the people amounted to at least three or four times as much. The taxes were of various kinds: the principal was the tithe (*aschr*) of all crops; and there were also poll taxes on the Jews, with taxes on professions, trades, &c.; and the government derived a considerable sum from

the monopoly of wool, leather, salt, and wax. These taxes have been partly retained by the French; but the more oppressive, with the monopolies, have been abolished. A considerable revenue has been latterly derived from the sale of the public lands and other property belonging to the state, which are beginning to be extensively purchased and occupied by Europeans. The revenue from all sources amounted in 1863 to about 50,000,000 francs, or 2 millions sterling. The French expenditure in Algeria, from its conquest to the end of the year 1864, is estimated at 4,632,484,000 francs, or 185,299,360*l*. To France Algeria always has been, and must continue to be, a most costly colony.

The Government is administered by the commander-in-chief of the French forces in Algeria, who is governor-general, and responsible to the French cabinet. His salary, by an imperial decree of Sept. 5, 1864, has been fixed at 125,000 *fr.*, or 5,000*l*. The governor-general exercises absolute authority. Previously to 1830 the government was vested in a dey, or pacha, being the officer at the head of the Turkish soldiery in the regency.

Military and Naval Force.—Under the Turks the dey maintained about 10,000 regular infantry and 6,000 cavalry; but in case of need he could bring into the field a considerable body of irregular troops, bound to serve, like the European forces of the middle ages, for a certain number of days at their own cost. The cavalry was recruited chiefly among the Arabs and Berbers. The naval force, so long an object of terror to the Christian powers, was never very formidable. In 1816, when it was nearly annihilated by Lord Exmouth, it consisted of 4 frigates of from 40 to 50 guns, 1 of 38 guns, 4 corvettes, 12 brigs and goelettes, and 30 gun-boats. In 1824 their corsairs had again begun to infest the seas; and in 1830, on the capture of Algiers, the French found a large frigate in dock, and two others in the port, 2 corvettes, 8 or 10 brigs, several xebecs, and 32 gun-boats. (Rozet, iii. p. 362-880.) The French troops in Algeria in 1863, according to official returns, were 62,407 men and 14,323 horses. The French troops of all arms included in these figures amounted to 51,855 men and 10,714 horses, the surplus being formed of a foreign regiment and native troops. In the so-called native troops, which never quit the colony except for fighting purposes, there are a great number of Europeans. They consist of three regiments of Zouaves, three of Turcos, or 'Tirailleurs Algériens,' three of 'Chasseurs d'Afrique,' and three of Spahis, but for some years a number of these have been absent in Cochinchina and Mexico.

Religion and Education.—The great bulk of the people profess Mohammedanism. The negroes, however, are mostly addicted to fétichism; and the creed of the Berbers is scarcely known, as they suffer no strangers to witness their rites: they pay great reverence to their marabouts or *mourabes*, persons who practise a rigid and austere life, and who sometimes affect to perform miracles. They regard them as inspired, and honour their tombs. This custom has crept in amongst the Jews, who venerate the sepulchres of their rabbins, and convert them into synagogues. Since the French occupation a good many mosques have been converted into Christian churches.

Morals are at an extremely low ebb; the inhabitants, particularly the Moors, being in general grossly sensual, debauched, and corrupt. Drunkenness is not very frequent amongst the natives; but the French have lost large numbers of men from excess.

The Moors and other inhabitants of the towns

can for the most part read the Koran and write, which, however, comprise the whole of their instruction; few understand arithmetic, or go beyond the first two rules; and this limited instruction, it will be observed, is enjoyed by the male sex only, women being brought up in the most complete state of ignorance. The Moors often transact business by placing their fingers on different parts of each other's hands, without speaking; each finger and joint denoting a different number. Few books, except the Koran, and some encyclopaedic commentaries upon it, are ever seen or sought after. The education of children in the Koran goes on for three or four years, when their tuition ceases. The French have established schools of mutual instruction in all the principal towns, which are chiefly superintended by Jews, and tolerably well attended. Official returns show that, in 1862, there were 471 establishments for primary instruction, which received 35,999 pupils of both sexes. During the three last years the number of children who have received primary instruction has increased by over 5,000. In 1861, among the tribes which had submitted to the military administration, 2,140 primary schools for Mussulmans had been established, with 2,313 institutions at which 25,000 pupils learned reading, writing, arithmetic, and commentaries on the Koran. (Tableau de la Situation, &c. p. 254., and French Official Returns.)

Arts and Sciences.—The Arabs of Algeria, though descended from the people who gave algebra to Europe, and preserved medicine during the dark ages, have no notion either of arithmetic, or of the correct measurement of time or distance. Their medicine, too, is in the rudest state, and few diseases occur that do not, under their treatment, become either chronic or mortal. Their remedies consist chiefly of superstitious practices, as pilgrimages; or inert decoctions, as that of mallows. They are accustomed, in cases of rheumatism and pleurisy, to puncture with a red-hot iron; to dress wounds with hot butter, and sometimes with pepper, salt, and brandy; and on the field of battle to thrust wool into them. When amputation is resorted to, it is performed by the stroke of an ataghan, and followed by the application of hot pitch. Hence, notwithstanding their aversion to change, we need not wonder that latterly the French army surgeons have been in great request by the natives. Hospitals have been established in the principal towns, and vaccination has been introduced. In 1863 not fewer than 23,301 civilians, belonging either to the European or to the native population, applied for admission into the hospitals. (Shaw, p. 196-199; Campbell, *Let.* 20; and Official Returns.)

Social Life.—The Berbers or Kabyles live in cabins (*gurbies*) made of the branches of trees plastered with mud and straw, with a low door and narrow glazed holes serving for windows; these huts are collected together in small groups or *dashkras*. The Moors, Jews, Negroes, and most others, except the Arabs, live in houses built on a uniform model, which from the earliest times has not varied. An open court-yard forms the centre, around which are various apartments, opening upon galleries supported by light pilasters: the roofs are flat, surrounded by a battlement breast high, and built with a composition of sand, wood ashes, and lime, mixed with oil and water, called *terrace*; whence our word. The rooms are floored and cisterns are made of this composition. Water-courses are composed of tow and lime only, mixed with oil; this mixture, as well as the former, soon acquiring the hardness and imperviousness of stone. In most habitations there is in each apartment a

raised platform for sleeping on, the bed being composed of junk, matting, sheep-skins, or more costly material, according to circumstances. The other furniture consists, among the nomadic tribes, of two large stones for grinding corn, wrought by women; a few articles of pottery and bronze, and a rude frame for weaving. The better classes have cushions and carpets to their rooms, the lower part of their walls being adorned with coloured hangings, and the upper part painted and decorated with fret work. The tents of the Arabs (the *magas* of the ancients) are sometimes called *khymas*, from the shelter they afford; and sometimes *beet-el-shaar*, or houses of hair, from the webs of goats' hair of which they are made. They are constructed at this moment precisely in the way described by Livy (lib. xxix. § 31.), Sallust (Bell. Jug. § 21.), Virgil, &c. They are of an oblong shape, not unlike the bottom of a ship turned upside down, and are easily set up and taken down. (Shaw, pp. 206-222.) The dress of the Berbers is very rude and coarse; that of the other classes varies greatly; but it is common with both sexes to wear abroad a *haik*, or toga, and a *bermouss*, which covers the head and shoulders: the faces of the women are very much concealed. Vegetables form the chief diet of all classes, not a fourth part of the animal food being consumed by them that is consumed by an equal population in Europe. Bread, couscouson (a kind of Irish stew), legumes, potatoes, tomatas, and other vegetables, dressed with spices, oil, butter, or aromatic herbs; Indian figs, raisins, melons, and other fruits; with water, sherbet, and coffee, —form the main articles of consumption.

Drinking coffee and smoking tobacco constitute never-failing amusements. Almost all the male inhabitants of the towns have a pipe attached to the button of their vest; and the more indolent and opulent will sit for days in cafés, unmindful of their families, smoking incessantly, or playing at chess. In the country, fowling, hawking, and hunting the wild boar and lion are actively pursued. Theatres are now opened in the principal towns.

The *Language* is mostly Arabic, but mixed with Moorish and Phœnician words. The Kabyles have a peculiar language, so very poor that it is without conjunctions or abstract terms, and is indebted to the Arabic for these, and for all terms of religion, science, &c. In conversing with Europeans a *lingua franca* is made use of; a mixture of Spanish, Italian, French, and Portuguese. (See BARBARY.)

Railways.—In no respect have the efforts of France to civilise this part of Africa been more successful than in the formation of good roads, and the most perfect of all roads, railways. At the end of the year 1864, there had been prepared in Algeria a net work of 340 miles of railroads, namely, a trunk line from Algiers to Oran, 287 miles long, and a branch line from Philippeville to Constantine, of 53 miles. The first section of this *reseau*, from Algiers to Blidah, was opened for traffic in April 1864, and the whole network was expected to be complete in May 1869. A connection of all the towns and military stations of Algeria by telegraphic wires was brought into operation in 1856.

History.—The country formed part of the Roman empire; but during the reign of Valentinian III. Count Boniface, the governor of Africa, having revolted, called in the Vandals to his assistance. The latter having taken possession of the country, held it till they were expelled by Belisarius, A.D. 534, who restored Africa to the E. Empire. It was overrun and conquered by the Saracens in the seventh century, and was soon after divided into as many kingdoms as there are now provinces.

Ferdinand of Spain, having driven the Saracens from Europe, followed them into Africa, and in 1504 and 1509 took possession of Oran, Bugia, Algiers, and other places. The natives, wishing to throw off the Spanish yoke, had recourse to the famous corsairs, the brothers Aroudj and Khayzed-Dyn, better known by the names of Barbarossa I. and II., who had distinguished themselves by the boldness and success of their enterprises against the Christians. The brothers speedily succeeded in expelling the Spaniards from all their possessions in Africa, with the exception of Oran, which they held to the end of the eighteenth century. Algeria became the centre of the new power founded by the Barbarossas; the survivor of whom obtained, in 1520, from Sultan Selim, the title of Dey, and a reinforcement of 2,000 troops. Since then it has been governed nearly in the manner described above; and has, with few interruptions, carried on almost incessant hostilities against the powers of Christendom, capturing their ships and reducing their subjects to slavery. Attempts have been made at different periods to abate this nuisance. In 1541, the emperor Charles V., who had successfully achieved a similar enterprise at Tunis, arrived with a powerful fleet and army in the vicinity of Algiers; but the fleet having been immediately overtaken and nearly destroyed by a dreadful storm, the troops, without provisions or shelter, underwent the greatest privations; and the emperor was compelled forthwith to re-embark such of them as had escaped the fury of the elements and the sword of the Turks. (Robertson's Charles V., cap. 6.) This great disaster seems for a lengthened period to have discouraged all attempts at capturing Algiers. France, however, as well as England and other powers, repeatedly chastised the insolence of its banditti by bombarding the town; but in general the European powers preferred negotiating treaties with the dey, and purchasing an exemption from the attacks of the Algerine cruisers, to making any vigorous or well-combined effort for their effectual suppression. In 1815, the Americans captured an Algerine frigate; and the dey consented to renounce all claim to tribute from them, and to pay them 60,000 dollars as an indemnification for their losses. But the most effectual chastisement they ever received was inflicted so late as 1816 by the British under Lord Exmouth; when Algiers was bombarded, the fleet in the harbour destroyed, and the dey compelled to conclude a treaty, by which he set the Christian slaves at liberty, and engaged to cease in future reducing Christian captives to that ignominious condition. But it is exceedingly doubtful whether these stipulations would have been better observed than others of the same kind previously entered into by his predecessors.

The last of the Algerine deys got entangled in altercations with the French government. Provoked by the discussions that had taken place, and the claims that had been put forward, he had the temerity to strike the French consul on the latter paying him a visit of ceremony. Redress was, of course, demanded for this gross insult; but instead of complying with any such demand, the dey took and demolished the French post at La Calle. This was equivalent to a declaration of war; and France determined on being avenged. In this view, she fitted out a powerful armament, including a land force of nearly 88,000 men, with a formidable train of artillery, under the command of General Bournont. The armament arrived on the Algerine coast on the 13th of June, 1830; and having effected a disembarkation on the following day, Algiers capitulated, after a feeble resistance, on the 5th of

July. The dey was allowed to retire with his personal property unmolested to Italy, and his troops to wherever they chose.

The French found in the treasury of the dey gold and silver, coined and uncoined, of the value of 47,639,011 fr., exclusive of stores of various kinds valued at 7,080,926 fr.

The towns of Oran and Bona soon after submitted, and the bey of Titteri was also reduced to obedience. But the bey of Oran, or Tlemcen, carried on for a lengthened period a series of contests and negotiations with the French, which were terminated in 1887 by the treaty of Tafna; by which he agreed to abandon the maritime parts of the province, and to recognise the supremacy of the French in Africa. The bey of Constantine was less easily dealt with. Trusting to the strength of his principal city, its distance from Bona, the nearest port, and the badness of the roads, he braved the hostility of the French. In November, 1836, a force of 8,000 men, under Marshal Clausel, advanced against Constantine. But the expedition, having been too long delayed, encountered the greatest difficulties on its march, from the severity of the weather, and the impracticable nature of the country; so that when it arrived before Constantine, it was unable to undertake the siege of the place, and with difficulty effected a retreat. To wipe off this disgrace a powerful army left Bona in the following autumn for the attack of Constantine, before which it arrived on the 6th of October. The Arabs made a vigorous resistance; but breaches having been effected in the walls, the city was carried by storm on the 13th. The French commander-in-chief, General Danremont, was killed during the siege.

Since that time, France has been engaged in a continuous stubborn conflict with the native tribes, undertaking frequent expeditions into the interior, the most important of them in the years 1845-6. The latter ended in the surrender of the renowned chieftain Abd-el-Kader, who was taken as a prisoner to France in 1847. He was released by the Emperor Napoleon III. in 1852. Minor insurrections and small frontier wars, however, continued to occupy the French troops; and a rather serious revolt of the tribes in the south-east broke out towards the end of 1864, and was not stopped without much bloodshed. To assist in the pacification of the colony, the Emperor Napoleon himself went on a tour through Algeria in May, 1865, issuing many proclamations, in which the inhabitants were exhorted to submit, without further opposition, to the rule of France.

ALGIERS (Arab. *Al Jazeire el gazie*, Algiers the warlike), a city and sea-port of N. Africa, cap. of the above country, on the Mediterranean coast, on the W. side of a bay about 11 m. in width and 6 deep; lat. of light-house $36^{\circ} 47' 20''$ N., long. $3^{\circ} 4' 32''$ E. It is built on the face of a pretty steep hill, the houses rising above each other so that there is hardly one of them which does not command a view of the sea. The summit of the hill is crowned by the *Kasba*, or citadel, 700 ft. above the level of the bay. The town is nearly 2 m. in circ., being surrounded by thick and high walls, flanked with towers and bastions. The fortifications towards the sea are comparatively strong; but those on the land side, though greatly improved by the French, are incapable of any very vigorous defence, being commanded by the adjoining heights. Algiers had, previously to the French invasion, 5 gates—2 on the sea, and 3 on the land side; about 160 streets, 5 squares, 2 palaces, 4 large and 80 small mosques (some of which are now converted into Christian churches), 2 large and 12 small synagogues, many buildings for the

military, and about 10,000 private houses. The pop. was formerly estimated at from 110,000 to 180,000; but it is probable that the lowest of these numbers was beyond the mark. It appears from a census taken in 1847, that the pop. of the city and commune amounted at that date, inc. garrison, to 97,389, of whom 72,393 were French and other Europeans, the residue being Moors, Kabyles, and Jews. A considerable emigration of Turks and others took place after the occupation of the city by the French; and the above statement showed that the emigrants had not returned. A final enumeration of the year 1862 showed a further decrease, the pop. at this time consisting of but 58,315 souls, of whom 37,145 Europeans, and 21,170 natives. The city has a very imposing appearance from the sea, looking like a succession of terraces, the houses, which are all whitened, giving it a brilliant aspect; but, on entering, the illusion vanishes: the streets are filthy, dark, crooked, and so narrow that, until latterly, the widest was but 12 ft. across. The French have, however, taken down many buildings to enlarge the streets, amongst others the principal mosque, in the view of making the *Place du Gouvernement* in the centre of the city, a large and handsome square in the European style. The houses have flat roofs, that command a fine view; they vary from two to three stories in height, and have a quadrangle in their centre, into which the windows uniformly open. The streets have, in consequence, a gloomy appearance; and they are farther darkened by the successive stories of the houses projecting over each other, and by their being frequently propped up by timbers across from one to another. The 'islands' whence Algiers derives its name, are two rocky ledges opposite its N.E. quarter, which have been united, strongly fortified, and connected with the main land by a mole; another mole, stretching SW. from these islands, and furnished with two tiers of cannon, incloses the harbour, which is rather small, and incapable of accommodating any vessel larger than a middle-sized frigate. A light-house is erected on one of the islands, at the junction of the two moles. The *Kasba* or citadel is surrounded by strong walls, and its fortifications have been repaired and strengthened by the French. It is, in fact, a little town in itself. It was here that the French found the treasure belonging to the dey. The mosques are octagon buildings, with a dome and minarets, often elegant, and adorned with marble colonnades. There are numerous public and private fountains, and baths of all kinds; for though formerly destitute of water, Algiers is now well supplied with that important element, which is brought to the town by aqueducts constructed in the last century, and which, previously to the French occupation, were kept in repair by funds set apart for that purpose. Many shops have been opened by Europeans; they consist of recesses in the sides of the houses, about 7 ft. by 4; but business is mostly transacted in the bazaars, which, with barbers' shops and cafés, are the chief places of resort for the natives. Algiers is now the residence of the governor-general of the French possessions in Africa, and of the principal government functionaries and courts of justice. It was created the seat of a bishopric in 1838; is strongly garrisoned; and has a regular intercourse by steam packets with Marseilles. The manufactures are chiefly those of silk stuffs, girdles, purses, clocks, jewellery, woollen cloths, *haïks*, *bermouss*, sandals, harness, carpets, junk, bronze utensils, &c. The markets are well provided with meat, vegetables, and fruit; provisions generally cheap, excepting bread, which is dear. There were no ovens, and only handmills for

grinding corn, before the occupation by the French. European manners, habits, and dresses are common; as many hats are seen as turbans; cigars replace pipes, shops bazaars; grand hotels, cafés, billiard tables, eating houses, *cabinets littéraires* have been set up, and a circus, cosmorama, and opera established. There is regular steam communication with Toulon and Cette in France, and Oran and Bona in Africa. The streets have all received French names. There arrived in the port of Algiers, in 1863, 1,587 vessels, of a total burthen of 192,119 tons. Of these vessels, 1,064, of 165,320 tons burthen, were engaged in the foreign trade, and 523, of 26,799 tons, were coasters. The environs of Algiers are very beautiful, and for some miles round interspersed with great numbers of elegant villas. There are 2 small suburbs, those of Bab-el-Oued and Bab-a-Zoun; the former to the N., the latter to the S. of the city. About a mile S. of the Kasba is the *Sultan Kalessi*, or fort of the emperor, an irregular polygon without fosse or counterscarp, about $\frac{1}{2}$ m. in circumference. It stands on the spot where Charles V. encamped, A. D. 1541, and completely commands the town; but is itself commanded by Mount Boujereah. The ancient city of Rustonium, the capital of Juba, was situated not far from Algiers, to the W. of Torretta Cica: some ruins of this city still exist. Algiers was founded A. D. 935. For some notice of its history, see the previous article. (See *Shaw's Travels*, pp. 33-35.)

ALGOA BAY. See PORT ELIZABETH.

ALHAMBRA. See GRANADA.

ALHAMBRA, a town of Portugal, prov. Estremadura, on the Tagus, 18 m. NNE. Lisbon. Pop. 1,600 in 1858. The town has some small manufactures of linen.

ALICANTE (an. *Lucentum*), a sea-port town of Spain in Valencia, cap. prov. same name, on the Mediterranean, 42 m. ENE. Murcia. Pop. 26,700 in 1857. Alicante is the terminus of the South-Eastern of Spain railway. It is situated between mountains at the bottom of a spacious bay, having Cape la Huerta at its NE. extremity, and Isla Plana on the S. Alicante is defended by a castle on a rock about 400 ft. high. Streets narrow and crooked, but well paved and clean. None of its churches, convents, or other public buildings deserve notice. The trade of Alicante had fallen much off, in consequence of the emancipation of S. America, and the disturbed state of the country, but is now again increasing. Its exports consist principally of wine, almonds, barilla, olives and olive oil, brandy, figs, salt, esparto rush, wool, silk, and linen. The imports consist principally of linens, salted fish, corn, cotton, and cotton stuffs, colonial produce, timber, &c. The number of British vessels which entered the port in 1862 was 234, bringing coals, iron, machinery and guano, to the value of 224,305*l*. The exports, principally raisins, oranges, and wine, were 32,266*l*. The trade with other nations was, ships 369; imports 307,955*l*, exports 92,305*l*. In 1863 the figures were, British ships 189; imports 145,710*l*; exports 91,657*l*. Foreign ships 343; imports 182,025*l*; exports 72,149*l*. The decrease in imports arose from the diminished quantity of railway material imported, and the increase in exports from an augmentation in the shipment of lead and *esparto* (feather grass), which last had doubled in price in consequence of its demand for the manufacture of paper. 'The prosperity,' says a consular report, 'of Alicante since the opening of the railway to Madrid in 1858 continues gradually to augment. The town and suburbs now contain 31,200 inhabitants, 8,960 dwelling-houses, 161

streets, and 17 squares. It possesses 6 churches, an institute or preparatory college for the university, 14 schools, a public library, a handsome theatre, 2 hospitals, and a well-conducted establishment for foundlings and aged paupers of both sexes. Hitherto little has been done in the erection of manufactories, for which the position of Alicante is well adapted, the remembrance of the ruinous result of several joint stock companies for smelting lead and silver ore in 1844 being still fresh in the memory of the inhabitants. An extensive cigar manufactory, a government monopoly, in which upwards of 4,000 women are employed, still continues, however, to retain its reputation for superior finish, and is constantly at work.' (Report of Colonel Barre, British Consul at Alicante, 1863.)

ALICATA, or LICATA, a sea-port town on the S. coast of Sicily, Val di Girgenti, at the mouth of the Salso; lat. $37^{\circ} 4' 25''$ N., long. $13^{\circ} 55' 40''$ E. Pop. 15,481 in 1858. It is built partly on the beach and partly on the slope of some hills. Its walls have gone to decay, and neither of its two castles is of any considerable strength. It is a poor-looking place, but exports considerable quantities of corn, with sulphur and soda, pistachio nuts, almonds, macaroni, &c. The port is shallow, so that large vessels must load in the offing, or road, about a mile SW. of the town, where they are exposed to the southerly winds.

ALICUDI, the most W. of the Lipari islands, 56 m. ENE. Palermo. Pop. 450 in 1858. It is about 6 m. in circ., rises abruptly from the sea, with irregular ravines and precipitous hills. It is cultivated wherever there is any soil, with singular and laborious industry, and produces most excellent wheat, barilla, flax, capers, &c. The people are said to be exceedingly healthy; it has only two unsafe landing-places, and is rarely visited by strangers.

ALIGHUR, a strong fort of Hindostan, in the district of the same name, between the Ganges and the Jumna, 53 m. N. Agra, 82 m. from Delhi by rail; lat. $27^{\circ} 56' N.$, long. $77^{\circ} 59' E.$ It was taken by storm in 1803; and was soon after made the head-quarters of a civil establishment for the collection of the revenue, and the administration of justice. The N. portion of the district of Alighur is a desolate tract, overspread with low jungle; but the S. portion is fertile and highly cultivated. The natives, though turbulent, are superior to the Bengalees, and other tribes more to the E. Alighur was one of the places held by the Sepoy rebels in 1857, and was retaken on 5th October of that year.

ALKMAAR, a town of N. Holland, cap. arrond. and cant., on the great ship canal from Amsterdam to the Helder, 20 m. NNW. the former, and 18 m. S. the Helder. Pop. 10,500 in 1861. It is strongly fortified and well built; there are many fine canals, shaded with trees, and the whole town has a strikingly clean and comfortable appearance. The Hotel de Ville and the arsenal are the only public buildings that deserve notice. It is the seat of a court of primary jurisdiction, and has a college, physical society, theatre, concert-hall, &c. Vast quantities of excellent butter and cheese are produced in the surrounding meadows. Exclusive of butter, about 40,000 tons of cheese are said to be annually disposed of in its markets. It also manufactures canvass, and has a considerable trade in cattle, corn, tulips, &c. Its commerce has been materially facilitated by the construction of the great canal. Without the town is a fine promenade, similar to those at the Hague and at Haarlem. In 1573, Alkmaar was invested by the Spaniards; but having been

repulsed with great loss, in an attempt to take the town by storm, they abandoned the siege. In 1799, the Anglo-Russian army under the Duke of York, advanced from the Helder as far as Alkmaar.

ALLAHABAD, an extensive and populous prov. or soubah of Hindostan proper, between the 24° and 26° N. lat. and 79° and 83° E. long. It is bounded on the N. by Oude and Agra, S. by Gundwana, E. by Bahar and Gundwana, and W. by Malwah and Agra. It is about 270 m. in length by about 120 in breadth.

It is divided into the following zillahs or districts, viz.: 1. Allahabad; 2. Benares; 3. Mirzapoor; 4. Juanpore; 5. The Rewah territory; 6. Bundelcund; 7. Cawnpore; 8. Manicipoor territory. It is watered by the Ganges, Jumna, and other great rivers. Adjacent to the former, the country is flat and very productive, but in the SW., in the Bundelcund district, it forms an elevated tableland, diversified with high hills containing the celebrated diamond mines of Poonah. The flat country is extremely sultry and subject to the hot winds, from which the more elevated region is exempted. In the hilly country, where the rivers are less numerous than in the plains, the periodical rains and well-water are chiefly relied on for agricultural purposes. On the whole, however, Allahabad is one of the richest provinces of Hindostan. The principal articles of export are sugar, cotton, indigo, cotton cloths, opium, saltpetre, diamonds, &c.; and, in addition, it produces all kinds of grain and a vast variety of fruits.

The chief towns are Allahabad, Benares, Calinger, Chatterpoor, Chunar, Ghazypoor, Juanpore, and Mirzapoor. The whole of this extensive province is now subject to the British government; the Benares district having been ceded in 1775; Allahabad and the adjacent territory in 1801; and the districts of Bundelcund in 1803. Total population 3,710,263 in 1861. Seven-eighths of the inhabitants are supposed to be Hindoos, the remainder Mohammedans.

ALLAHABAD, an ancient city of Hindostan, cap. of the above prov. and dist., near the confluence of the Ganges and Jumna, being by the course of the river 820 m. from the sea, but the distance in a direct line from Calcutta is only 475 m.; from Benares, 75 m.; and from Agra, 280 m. Lat. 25° 27' N., long. 81° 50' E. At a short distance from the city, at the junction of the rivers, is situated the fortress, founded by the Emperor Akbar in 1583; but much improved since it came into the possession of the British. It is lofty and extensive, completely commanding the navigation of both rivers. On the sea-side it is defended by the old walls; but on the land side it is regularly and strongly fortified. It could not be taken by a European army, except by a regular siege; and to a native army it would be all but impregnable; and hence it has been selected as the grand military dépôt of the upper provinces. In the course of the Indian mutiny in 1857, an insurrection of a dangerous character broke out, on the 5th of June, at Allahabad, and the Europeans had to retire into the fort, where they were besieged. However, they soon recovered their ground, and, before many days were over, retook possession of the town.

Being situated at the point of union of two great navigable rivers, Allahabad is in one of the finest positions in India for being the seat of an extensive commerce. The town, indeed, was decaying for some time after its occupation by Great Britain in 1765; but of late years, and particularly since the opening of the great East India railway from Calcutta to Delhi, on which it is a

chief station, it has been greatly increasing in prosperity. The population, which was only about 20,000 in 1803, had risen to 64,785 in 1861. The extensive cultivation of cotton in India, a result of the American civil war, was also particularly favourable to Allahabad, it having become the chief seat of an extensive trade in the article.

In the eyes of the natives, the city is chiefly important as a place of pilgrimage—one of the most renowned in India. Besides the Ganges and Jumna, the Hindoos believe that another river, the Sereswati, joins the other two from below ground. In consequence of this extraordinary junction, Allahabad is reckoned peculiarly holy, and is annually visited by many thousands of pilgrims, who come from all parts of Hindostan to bathe and purify themselves in the sacred stream: in some years their numbers have amounted to nearly 220,000, each of them paying a small tax to government:—"When," says Mr. Hamilton, "a pilgrim arrives, he sits down on the bank of the river, and has his head and body shaved, so that each hair may fall into the water, the sacred writings promising him one million of years' residence in heaven for every hair so deposited. After shaving, he bathes; and the same day, or the next, performs the obsequies of his deceased ancestors. The tax accruing to government for permission to bathe, is 3 rupees each person; but a much greater expense is incurred in charity and gifts to the Brahmans, who are seen sitting by the river-side. Many persons renounce life at this holy confluence, by going in a boat, after performance of certain solemnities, to the exact spot where the three rivers unite, where the devotee plunges into the stream, with three pots of water tied to his body. Occasionally, also, some lose their lives by the eagerness of these devotees to rush in and bathe at the most sanctified spot, at a precise period of the moon, when the immersion possesses the highest efficacy. The Bengalees usually perform the pilgrimages of Gaya, Benares, and Allahabad in one journey, and thereby acquire great merit in the estimation of their countrymen." (Hamilton's Gazetteer; Heber, i. pp. 441-445.) Since 1862, Allahabad has become the capital of the north-western provinces.

ALLAN (BRIDGE OF), a neat village of Scotland, on the Allan, 8 m. NW. Stirling, on the Scottish Central railway. Pop. 1,803 in 1861. The village is a good deal resorted to in summer by visitors, on account of a mineral spring in the vicinity.

ALLAUCH, a town of France, dep. Bouches du Rhône, 5 m. ENE. Marseilles. Pop. 3,641 in 1861. The town is built on the declivity of a hill, and is very ancient.

ALLEGHANY or **APPALACHIAN MOUNTAINS**, a chain of mountains in the U. States of N. America, running in a NE. and SW. direction from the N. parts of Alabama and Georgia, to the state of Maine, a distance of about 1,200 m. It consists of a number of ridges, having a mean breadth of about 100 m. and a mean elevation of from 2,500 to 3,000 feet. Their highest summits are in N. Hampshire, where they attain to an elevation of between 6,000 and 7,000 feet. They are almost everywhere clothed with forests and interspersed with delightful valleys. Their steepest side is towards the E., where granite, gneiss, and other primitive rocks are to be seen. On the W. they slope down by a gentle declivity continued to the Mississippi. Iron and lead are both met with, the former in great abundance, in various parts of the range; and the considerable quantities of gold that have been found in the streams in the upper parts of N. Carolina and Georgia,

show that it also is among the products of the Alleghanies. But coal seems to be by far the most important of their mineral riches. Vast, and all but inexhaustible beds, of bituminous and of anthracite or stone coal are found in different parts of the chain, and are already very extensively wrought. The quantities of anthracite brought to Philadelphia, partly for the supply of the city, and partly for shipment to other places, have greatly increased of late. Within the last few years, most extensive oil wells have also been discovered in the district of Pennsylvania, giving rise to eager speculation, and the sudden growth of immense fortunes. Salt springs are abundant all along the W. slope of the Alleghanies, and from some of them large supplies of salt are procured. This mountain system is crossed by the Hudson river, and is the only instance known, except that of the St. Lawrence, of the ocean tides passing through a primitive mountain-chain, and carrying depth for the largest vessels. It is also crossed by several canals and railways.

ALLEN (BOG OF), the name usually given to the extensive tracts of morass situated in Kildare and King's and Queen's counties, and the adjoining counties of Ireland. These do not however form, as is commonly supposed, one great morass, but a number of contiguous morasses separated by ridges of dry ground. Though flat, the bog has a mean elevation of about 250 feet above the level of the sea, and gives birth to some of the principal Irish rivers, as the Barrow flowing S., and the Boyne E.

ALLEN (LOUGH), a lake, co. Leitrim, Ireland, about 10 m. in length, and from 4 to 5 in width. This lake is generally supposed to be the source of the Shannon, and it has perhaps the best title to that distinction. It is elevated 144 feet above the level of high water-mark at Lime-lick; and the Shannon has been rendered navigable as far as the Lough.

ALLENDORF, a town of Hesse Cassel, on the Werra, 23 m. ESE. Cassel, on the railway from Cassel to Eisenach. Pop. 2,500 in 1861. There is in the vicinity a considerable salt work.

ALLEVARD, a town of France, dep. Isère, cap. cant., 21 m. NE. Grenoble. Pop. 1,547 in 1861. There are valuable iron and copper mines in its vicinity, and founderies where iron of an excellent description is prepared for conversion into steel, and also for being cast into cannon. In the neighbourhood are the ruins of the castle of Bayard, the birth-place of the famous knight of that name—the *chevalier sans peur et sans reproche*.

ALLIER, a dep. almost in the centre of France, so called from the river Allier, one of the principal affluents of the Loire, which traverses it from S. to N., between 45° 58', and 46° 47' N. lat., and 2° 16' and 3° 57' E. long. Area, 728,981 hect., whereof about 468,000 are cultivated land, 70,000 meadows, 18,000 vineyards, 64,000 woods, 28,700 heaths, moors, &c. Pop. 356,482 in 1861. Exclusive of the Allier, it is bounded E. by the Loire, and is traversed by the Cher, and other lesser rivers. The ponds and smaller lakes are so numerous, that they are said to have an injurious influence over the climate. Surface undulating, and in parts hilly; soil generally fertile, producing a surplus of corn and wine for exportation, with great numbers of cattle, sheep, and excellent horses. A good deal of the timber in the forests is oak, suitable for ship-building. Agriculture in this, as in many other departments of France, is in a backward state. Many of the peasantry are small proprietors, and wedded to the practices of their forefathers. (See FRANCE—Agriculture.) There are valuable mines of coal, iron, and antimony; and

quarries of marble and granite. Among the manufacturing establishments may be mentioned the glass works of Sourigny and Commeny, which employ about 800 workpeople; the iron works of Troncais, which employ above 500 ditto, and furnish annually above 500,000 kilograms of iron. There are also manufactories of cutlery, earthenware, cloth, and paper, with spinning-mills, and numerous breweries. The department is divided into 4 electoral arrond.; 16 cant. and 322 communes. Chief towns, Moulins, Montluçon, Gannat, and La Palisse.

ALLOA, a sea-port and m. town of Scotland, co. Clackmannan, on the Forth, at the point where it ceases to be a river, and becomes a frith, 25 m. WNW. Edinburgh. Pop. of town, in 1841, 5,484; of parish and town, 6,505; in 1861, town, 6,425; par. and town, 8,867. It is irregularly built; but has recently been much improved. A church, opened in 1819, has a spire 200 feet in height. The harbour is excellent; vessels of large burden lying close to the quays; there is also a dry dock and two yards for ship-building, and a spacious wet dock was opened in 1863. The trade of the town is considerable. In 1862 the reg. shipping was 48, tonnage, 14,049; steamers, 5, tonnage, 231. The customs revenue in 1861 was 5,829*l*. There are very extensive collieries, distilleries, and iron works in the neighbourhood, the produce of which is principally shipped here; and in the town and its vicinity are extensive breweries, which produce ale rivaling that of Edinburgh, with iron foundries, woollen manufactories, glass works, tile and brick works. The justice of peace and sheriff courts for the co. are held here. In a park adjoining the town are the ruins of a seat of the Earl of Mar, part of which consists of a tower of the 13th century, 90 feet in height.

ALLOWAY KIRK: the church (Scottice, Kirk) of a parish, on the coast of Ayrshire, long united with that of Ayr, near the mouth of the Doon, on the road from Ayr to Maybole, about 8 m. S. from the former. The Kirk has been for a lengthened period in ruins, but being prominently brought forward in Burns's inimitable tale of Tam O'Shanter, and having in its immediate vicinity the poet's birth-place, and the monument erected to his memory, it has become an object of great interest. Though roofless, the walls are in pretty good preservation; and the feelings with which they are now associated will protect them from depredation. The church-yard, which is still used as a burying-ground, contains the graves of Burns's father and mother; and such is the *prestige* with which it has been invested, that latterly it has become a favourite place of interment. Between Alloway Kirk and Ayr, but much nearer the former than the latter, is the cottage in which Burns was born (on the 25th of February, 1759), a one-story house, of humble appearance, with a thatched roof, and long used as an inn. About $\frac{1}{2}$ m. on the other side of the Kirk, are the 'Auld brig o' Doon,' and the new bridge—the latter about 100 yards below the former, and built since the time of Burns; and on the summit of the acclivity of the E. bank of the river, about half way between the old and new bridges, is the monument of the poet. This elegant structure was finished in 1828, at an expense of about 2,000*l*. It is built in imitation of the monument of Lysicrates at Athens, and consists of a triangular basement, on which rises a peristyle, of 9 Corinthian columns, 80 feet in height, supporting a cupola, surmounted by a gilt tripod. It is above 60 feet in height; is built of fine white freestone, and has a chaste, classical appearance. Independently of the peculiar associations connected with the place, the scenery around is equal

in richness and variety to any in Scotland. The celebrated statues of Tam O'Shanter and Souter Johnnie are appropriately placed in a grotto within the grounds attached to the monument.

ALMADA, a town of Portugal, prov. Estremadura, on the Tagus, opposite to Lisbon. Pop. 5,500 in 1858. There is an old castle on a rock, an hospital, a Latin school, with large magazine for wine.

ALMADEN, a town of Spain, prov. La Mancha, on its SW. frontier, in the Sierra Morena, 57 miles WSW. Ciudad Real. Pop. 8,645 in 1857. Within a short distance of this town is a famous mine, whence quicksilver was obtained to the extent of from 30,000 to 40,000 quintals a year about 25 years ago; but in 1863 the produce was only 16,000 quintals. This mine is very ancient, and is believed to have been wrought previously to, and by the Romans. But the statements of Pliny, which are alike curious and instructive (Hist. Nat. lib. xxxiii. 7), apply distinctly to Sisapo in Bética, that is, to *Almaden de la Plata*, 27 m. NNW. Seville, where there is still a productive mine; and there are mines of the same sort, though of very inferior consequence, in other parts of Spain.

The inhab. of Almaden are almost wholly engaged in the mines, or in the subsidiary employments connected with them. Formerly, the mines were principally wrought by convicts; but that system has been relinquished for a good many years, and they are now wholly wrought by free labourers. Working in the mines is still, despite the meritorious efforts made for its improvement, very unhealthy; but it is less so in winter and spring than in summer and autumn; and during the latter the mines are comparatively deserted, the miners being then mostly engaged in agricultural pursuits. The mines were formerly wrought on account of government, who disposed of the produce by contract to the highest bidder; but in the year 1831, owing to financial difficulties, they were leased to the great banking house of Baron Rothschild & Co. for a number of years.

ALMAGRO, a town of Spain, prov. La Mancha, 12 m. ESE. Ciudad Real. Pop. 12,605 in 1857. It has an important manufacture of blondes. The country round is celebrated for its mules and asses, for which there is annually a large fair.

ALMANZA, a town of Spain, prov. Murcia, 56 m. NW. Alicante. Pop. 8,736 in 1857. It is well built, has broad streets, linen fabrics, and a great annual fair. In the neighbourhood of this town, on the 25th April, 1707, the French, under the Duke of Berwick, gained a complete victory over the allied forces in the interest of the Archduke Charles. The latter lost 5,000 men killed on the field, and nearly 10,000 taken prisoners.

ALMEIDA, a fortified town of Portugal, prov. Beira, 24 m. W. by N. Ciudad Rodrigo. Pop. 6,850 in 1858. From its position on the frontier of the kingdom, it has always been deemed a military post of the greatest importance. In 1762, it was taken by the Spaniards, after a long siege. In 1810, it was taken by the French under Massena, who abandoned it in the following year, after blowing up the fortifications.

ALMERIA (an. *Murgis*), a sea-port town of Spain, cap. of prov. of same name, and near the mouth of the river, and at the bottom of the gulph of the same name; 49 m. ESE. Murcia. Pop. 27,036 in 1857. It is the seat of a bishop, and has fabrics of soda and saltpetre, and of cordage and other articles made of the esparto rush. The harbour is large, well sheltered, and is protected by a castle; the water is so deep, that large vessels anchor half a mile from shore, in from 9 to 14 fathoms, and smaller vessels anchor, close in shore, in from 5 to 9 fathoms. The ancient sovereigns of Granada

considered this as the most important town of their dominions, as well on account of the fertility of the surrounding country, as of its manufactures and commerce. Till of late the town had very much fallen off, but its importance as a commercial port has greatly increased in recent years, and it has been embellished with many new buildings. Besides the esparto trade, that in lead and grapes afford considerable occupation, and the production of barley is likewise on the increase. The total shipping in 1863 was 1,278 vessels, 98,484 tons. There are 13 smelting works for lead ore, and the produce in 1863 was 8,000 tons. The roads in the district are very indifferent; there are no railways, and none projected; and the mountainous nature of the country interposes a natural barrier to the town keeping pace with more favoured districts of Spain. (Consular Reports.)

ALMONBURY, a pa. and township of England, W.R. co. York, wap. of Agbrigg, divided by the Colne from the pa. of Huddersfield. The pa. is very extensive, containing 30,140 acres, with a pop. of 42,889 in 1861. It contains several villages, of which Almonbury, 1½ m. SE. Huddersfield, is the principal. Pop. of Almonbury township 10,861 in 1861, mostly engaged in the manufacture of woollens and cottons, especially the former. (See Huddersfield.)

ALMORA, a town of Hindostan, cap. Kumaon, in the NE. part of India, 90 m. N. by E. Bareilly; lat. 29° 35' N., long. 79° 40' E. It stands on a ridge 5,337 feet above the level of the sea, and is compactly built. The houses of stone, and slated, are generally two and some three stories high, the ground-floor being occupied as shops. The old Goorka citadel stands on a commanding point of the ridge at the E. extremity of the town, and several martello towers have been erected on peaks to the eastward. This place was acquired by the British in 1815. The surrounding country is bleak and naked.

ALMUNECAR, a sea-port town of Spain, prov. Granada, 41 m. S. Granada. Pop. 4,710 in 1857. The town is of Arabic origin, its name signifying a 'place of banishment.' It has a ruined castle, ruined walls, and narrow streets. The surrounding country, though unsuited to corn, produces figs, raisins, the sugar-cane, cotton, &c. The anchorage is fit only for small vessels, and should not be used by them except in cases of emergency, as the E. winds common on this coast are dangerous.

ALNMOUTH, a village of England, in Northumberland, at the mouth of the Alne, 5½ m. ESE. Alnwick. Pop. 454 in 1861. The village exports considerable quantities of corn and other produce.

ALNWICK, a town of England, cap. co. Northumberland, on a declivity near the river Alne, 275 m. from London by road, and 318 m. by Great Northern railway. Pop. of town, in 1841, 4,945, of township 6,626; in 1861 town 5,670, par. 7,350. It has a spacious square, where a weekly market is held, and a town-house, where the co. courts meet and the members for the co. are elected; the assizes, however, are not held here, but at Newcastle. Alnwick was formerly fortified, and vestiges of its walls and gates still remain. At the N. entrance to the town stands Alnwick Castle, once a principal stronghold of the kingdom on the side of Scotland, and now the magnificent baronial residence of the Dukes of Northumberland. It underwent, not many years ago, a complete repair and renovation, executed in good taste. At the entrance to the town, a column is erected in honour of one of the Dukes of Northumberland. A cross, called Malcolm's Cross, stands on the spot where Malcolm III., king of Scotland, is said to

have been killed, in 1093, by a soldier, who came to offer him the keys of the castle on the point of a spear.

ALOST (Flem. *Aalst*), a town of Belgium, prov. East Flanders, on the Dender, about half way between Brussels and Ghent. Pop. 19,254 in 1856. It is surrounded by walls, and is clean and well built; the parish church, the largest in the country, is not finished; it has a college, and several other educational establishments; a town-house, remarkable for its antiquity, with manufactures of linen, cotton, lace, hats, &c., print works, and dye works, breweries and distilleries, tanneries, soap works, iron and copper foundries, and potteries. Vessels of small size come up to town by the river; and it has a considerable commerce in the produce of its manufactures, and in hops of an excellent quality, grown in the neighbourhood, rape oil, &c. At Alost is the tomb of the celebrated Thierry Martens, the friend of Erasmus, who introduced the art of printing into Belgium.

ALPHEN, a town of the Netherlands, prov. S. Holland, cap. cant. on the Rhine, $\frac{7}{8}$ m. E. Leyden. Pop. 3,167 in 1861. It has manufactures of earthenware and pipes.

ALPNACH, a village of Switzerland, cant. Unterwald, on the SW. arm of the lake of Lucerne. Pop. 1,600 in 1860. A very singular road, called the *Slide of Alpach*, is constructed in the immediate vicinity of this town, for conveying trees from Mount Pilatus to the lake, from which they are forwarded down the Rhine to the Netherlands in the form of rafts.

ALPS (THE), the most extensive mountain system of Europe. They extend from the banks of the Rhone in France on the W., to the centre of Slavonia and the frontiers of Turkey on the E., from the 5th and 18th degree E. long., forming a vast semicircular bulwark which encompasses, on the N., Italy and the Adriatic Sea. The extremities of this semicircle approach 48° N. lat., but the great body of the range occupies the space between the 46th and 48th degrees N. lat.

The Alps are closely united to two other mountain ranges; on the W. to the Apennines, which traverse Italy in its whole length; and on the E. to the Balkhan, which covers Turkey and Greece with its numerous ramifications. The boundary line between the Apennines and the Alps is difficult to determine. It seems to be most expedient to suppose that the Alps begin on the W. side of the great road over the Bochetta pass (2,550 ft. above the level of the sea), which leads from Genoa to Novi in Piedmont. That portion of the range which begins at this road and extends E. to the sources of the Tinea, a tributary of the Var, is called the *Maritime Alps*, and does not contain any very high summits; but it is extremely steep, and is traversed only by one road practicable for carriages. This road connects the town of Nice with the town of Coni in Piedmont, and traverses three ridges by the cols or mountain passes of Brous Brovis, and de Tende. The last col is in the main ridge of the range, and rises to 6,159 feet above the level of the sea.

Between the plain of the Po and the valley of the Rhone, the mountain mass lies in its greatest extent S. and N., reaching from the shore of the Mediterranean, or from nearly 43° , to the lake of Geneva, or to nearly $46^{\circ} 30'$ N. lat. Its length is here, consequently, about 230 m., and its width averages about 100 m. The watershed, between the rivers falling into the Po, and those emptying themselves into the Rhone, does not traverse the middle of the mountain region, but is found at about 30 m. from its E. border. On it rise some very high summits. The most remarkable arc,

Monte Viso, 12,643 feet above the sea, on whose E. declivities the Po takes its origin; and Mount Cenis 11,795 feet above the sea. Mount Iséran, it appears, must be deposited from the place it has long held amongst mountains. On reaching the summit of the Col d'Iséran, the traveller naturally expects, says the Alpine Guide, to see this summit, towering, as has been described, 13,271 feet above the level of the sea. But no great peak lies close to the pass; the highest point near it, and that which occupies the place of the Mont Iséran of the maps, is not more than 10,800 feet above the sea level. Farther N. is the immense mass of rocks that constitute MONT BLANC, whose highest point, the *Bosse de Dromedaire*, in lat. $45^{\circ} 50'$ N., long. $6^{\circ} 51'$ E., 15,739 ft. above the sea, is the highest elevation to which the Alps attain. The valleys, both to the E. and W., branch off at right angles from the watershed. Those to the E. are short, straight, and deep, and terminate in the plain of the Po; those to the W. are of much greater length, and rather winding. On this side, especially in the dep. *des Hautes Alpes*, between the upper branches of the rivers Isère and Durance, are placed a considerable number of very high summits; Mont Loucyra attains 14,451 ft., Mont Loupilla 14,144 ft., Mont Pelioux de Vallouise 14,119 ft., and at least twelve others rise above 11,000 ft. The peculiar disposition of the valleys in this portion of the Alps has rendered the communication between France and Italy comparatively easy. The roads follow the valleys up to the watershed, and have then only to traverse one high ridge. Three great carriage roads lead over it. The farthest to the S. is the road of Mount Génèvre, which ascends from the banks of the Rhone along the valley of the Durance to Briançon, and traverses the ridge N. of Mount Génèvre, where it attains 6,119 ft. above the sea, whence it descends in the valley of the river Dora to Susa. The second is the road of Mount Cenis, which on the side of France may be said to begin at Grenoble. It ascends first the valley of the Isère, and afterwards of the Arc, a tributary of the former, and traverses the ridge N. of Mount Cenis, where it is 6,772 ft. above the sea, and then descends, like the former, along the Dora to Susa. The latter is by far the most used of all the roads over the Alps; and it is stated that annually from 16,000 to 17,000 carriages of all kinds, and from 45,000 to 50,000 horses and mules, pass along it. A railway following the course of the road over Mount Cenis, with a gigantic tunnel through the mountain, is to be completed in 1872. The third carriage road is that of the Little S. Bernard, which ascends the valley of the Isère, passes the ridge between Mont Iséran and Mont Blanc, and descends in the valley of the Dora Baltea to Aosta. It attains in its highest point to an elevation of 7,015 ft. above the sea, and it is most commonly supposed that it was by it that Hannibal penetrated into Italy. This portion of the Alps comprehends what commonly are called the Cottian, Graian, and partly the Pennine Alps, together with those of Dauphiné and Savoy; but respecting the limits of the Cottian and Graian Alps, there prevails considerable uncertainty.

At Mont Blanc the direction of the range is changed. It runs hence ENE. and the N. ridges continue in that direction to their termination in the neighbourhood of Vienna. With the change of direction a change in the disposition of the valleys is observed. The range is divided into two or more ridges, running nearly parallel, and including extensive longitudinal valleys. From the ridges enclosing these longitudinal valleys short transverse valleys descend S. and N. to the

plains which bound the mountain range. This disposition of the ranges renders the communication between Italy on one side, and Switzerland and Germany on the other, much more difficult than the communication between Italy and France; for the roads must either traverse two or more ridges, or great deflections must be made to avoid one of them.

E. of Mont Blanc the range is divided into two high ridges, which enclose the valley of Valais, and unite about $8^{\circ} 30'$ E. long., at the sources of the Rhone. The southernmost of these ranges, which is immediately connected with Mont Blanc, contains nearly in its middle Mount Rosa, the second highest summit of the Alps, being 15,217 ft. above the sea. W. of it stands Mount Cervin, or Matterhorn, the third highest summit, rising to 14,836 ft. Then follow Mount Combin, which has 14,164 ft., and Mount Velan, which attains 12,353 ft. E. of Mount Rosa, and near it, is the Cima de Suci, 13,740 ft. high. This chain comprises the greater part of the Pennine and a portion of the Lepontine Alps, but is commonly called the Alps of Valais. In the chain which encloses the valley of Valais on the N. the greatest European glacier is found, not far W. of the source of the Rhone. Here a great part of the chain rises above the line of congelation, and is always covered with ice. It is stated to have an area of 200 sq. m. Many high summits rise out of it in the form of pyramids; and as the snow does not adhere to their steep sides, they form a sublime contrast with the sea of ice that surrounds them. The most famous of these summits are the Finsteraarhorn, 14,026 ft.; the Monch (Monk), 13,438 ft.; the Jungfrau (Virgin), 13,761 ft.; the Schrekhorn, 13,894 ft.; the Vischerhorn in Grindelwald, which include six summits ranging from 12,694 ft. to 13,281 ft.; and the Eiger, 13,045 ft. high. The glaciers of Grindelwald and Lauterbrunnen, which attract so many travellers, are only small detached portions of this immense glacier. W. of the great glacier the chain still contains many summits rising to 11,000, and even to 12,000 ft. of elevation; as the Altels, the Blümlisalp, and others. It may be considered as terminating on the W. with the Diablerets, or Teufels-hörner, which attains about 10,666 ft. of elevation. W. of them the mountains are of moderate height, and towards the lake of Geneva they sink into elevated hills. This chain goes commonly by the name of Bernese Alps (Bernier Alpen).

The depression of this chain at its western extremity has afforded an opportunity of establishing a carriage communication between Geneva and Berne in Switzerland, and Milan in Lombardy. The road runs along the shores of the lake of Geneva, and enters at its eastern extremity the valley of the Rhone or of Valais. It then ascends the valley as far as the town of Brigg, and passes thence over the S. range by the pass of the Simplon to Domo d'Ossola and the shores of the Lago Maggiore. The highest point of this road is 6,585 ft., the town of Brigg 2,325, and Domo d'Ossola 1,008 ft. above the sea. This road, made by order of Napoleon, partly at the expense of France, and partly of the then kingdom of Italy, is a noble work. It is about $26\frac{1}{2}$ ft. wide, rising $1\frac{1}{4}$ inch each yard. In some places it is tunnelled to a considerable distance through the solid rock. It is the only carriage road over this range; but another road, used only by mules, has obtained celebrity by Napoleon having passed it in 1800, previously to his famous Italian campaign. This is the road of the Great S. Bernard; it begins at Martigny

on the Rhone, ascends the vale of the small river Drance to its source, where it passes over the chain near the celebrated Hospice, at an elevation of 8,178 ft. above the sea, and descends hence to Aosta on the Dora Baltea.

E. of the sources of the Rhone is the only place in the Alps running W. and E. where the range is not divided by longitudinal valleys, but is intersected by the two transverse valleys of the Reuss and Tessino. Hence there has existed time immemorial a line of communication in this point between Switzerland and Italy. This is the road of the S. Gothard, uniting Zurich and Lucerne with Milan, running first along the shores of the lake of the four cantons (or of Lucerne) to Altorf, and afterwards in the valley of the upper Reuss to Andermatt. It passes the ridge at an elevation of 6,808 ft., descends to Arioio in the Tessino in Val Leventina, and runs in this valley to the Lago Maggiore, and thence to Milan. This much frequented road has only in modern times been rendered practicable for carriages, on account of the poverty of the small cantons which it traverses.

That portion of the mountain system which lies between Mont Blanc and the road of the S. Gothard is less broad than any other part. It probably does not measure more than 80 m. across in a straight line; but its valleys, both to the S. and the N., but especially the latter, known by the name of Highlands of Berne (Bernier Oberland), are considered as exhibiting the richest mountain scenery in the Alps.

E. of the road over the S. Gothard pass, the mountain system widens considerably; so that between 9° and 18° E. long., its average breadth may be estimated at between 120 and 180 miles. But at the same time the high summits are less numerous, a few only attaining 12,000 ft., though a great number still exceed 10,000 ft., and pass the line of congelation. The height of the mountain passes shows evidently that the elevation of the whole mountain mass has rather increased than decreased, at least W. of the pass over the Brenner.

That portion of the range which is bounded on the south by the Val Tellina, the road of the Tonale, and the valleys of Sol and Nou; on the north by the road of the Voralberg from Feldkirch to Landeck, on the east by the Adige from San Michele to its source, and then by the Finstertünz road to Landeck; and on the west by the valley of the Rhine and the Splügen road is called the Rhetian Alps, or the Alps of the Grisons. It is traversed by a great valley, which is divided by a high transverse ridge into two, of which the W. or shorter, called the Vale of Bregaglia, is drained by the river Mera, which runs W., and falls into the lake of Como, or rather of Mesola; and the E. and much longer by the Inn, which falls into the Danube. The Adda, and its tributaries, with the exception of the valley of Poschiavo, has been united to Italy since the year 1859. Except Engadine, all the valleys running eastward from these Alps belong to Austria, as also belongs the valley of the Ill, opening into the valley of the Rhine at Feldkirch. The valley of the Upper Rhine affords two openings towards the low country; one to the lake of Constance, and the other to the lake of Wallstadt. Thus the town of Chur or Coire, situated where the Rhine turns N., has an easy communication both with Germany and Switzerland. Though a small place, by far the greater part of the commercial intercourse between Bavaria, Wirtemberg, Baden, and Switzerland on one side, and Italy on the other, is carried on by the road passing through it. The

eastern of the Grisons, sensible of the advantage accruing from this commercial intercourse, has constructed three excellent roads over the range, which divides the affluents of the Rhine from those descending into the plain of the Po. A road runs from Coire along the Rhine to the place where the Vorder Rhein and Hinter Rhein join, and thence ascends in the valley of the latter to the village of Splügen in the Rheinwald. At this place the road divides in two. One continues to ascend the valley of the Hinter Rhein to a village called also Hinterrhein, and passes thence over the high mountain ridge to S. Bernardino; it is called the road of S. Bernardino. From this village it descends in the Val Misocco or Miso along the river Moosa, which opens near Bellinzona into the small plain surrounding the N. extremity of the Lago Maggiore. This road, which rises to 7,815 ft. above the sea, has been made in modern times to avoid the heavy duties which the Austrian government laid on the foreign commodities passing through its territories; for from Bellinzona they now can pass to Turin and Genoa without traversing any portion of the Austrian dominions. The other road leaves the Rheinwald at the village of Splügen, and directly passes over the mountain ridge to Val Giacomo, which opens into Val Bregaglia near Chiavenna. The highest part of this road between Splügen and Isola is 6,946 ft. above the sea. Another road runs from Coire nearly directly S. over some mountains of moderate height, till it enters the valley of Oberhalbstein, which it ascends nearly to its upper extremity, where it divides into two branches, of which the E. passes Mount Julier at an elevation of 7,285 ft.; it leads to the valley of Engadinen, and is not a commercial line of communication. The W. road passes over the Maloja and descends into Val Bregaglia, where it continues to the town of Chiavenna. It rises to 8,250 ft. above the sea, and though practicable only for small carts, is much used.

The next road farther E. is rather a military than a commercial line, and was recently made by the Austrian government to open a carriage communication between the newly acquired Valeline and Tyrol. It begins at Innsbruck, ascends along the Inn as far as Finstermünz, near the boundary line between Tyrol and Switzerland; turns then southward, and passes the watershed of the Alps, between Nanders and Reshen, where its highest point is about 4,500 ft. above the sea. Then it descends along the valley of the Adige to Glurns; but a few miles S. of this it leaves the valley, and turning SW. traverses a very lofty lateral chain of the Alps, which at the place where it is crossed by the road is called Monte Stelvio. It then rises to the height of 9,177 ft., being the highest elevation of any carriage road in Europe. From this point it descends rapidly into the valley of the Adda to Bormio and Sondrio, and thence to Milan. It is commonly 16 ft. wide, and has been made at a vast expense, and with great skill.

This road encircles on three sides an extensive mountain region, filled up by snow mountains and glaciers, occupying the greater part of the country between Innsbruck and Glurns, and displaying the wildest scenery of the Alps. Eternal snow covers here a space not much less in extent than that which surrounds the Finsteraarhorn and Virgin, and it is likewise overtopped by numerous steep summits of a pyramidal form, many of them rising to more than 10,000 ft. above the sea; as the Gebatch Ferner 12,288 ft., the Wildspitz Ferner 12,364 ft., the Glockthurm 11,284 ft., and others. Where the road traverses Monte Stelvio it passes near another mountain group, less in

extent, but rising to a greater elevation. In it is Mount Orteler, or Orteler, the highest summit in Tyrol, 12,851 ft. above the sea; and near the latter Mount Hock Ischernwald 12,422 ft., and Mount Zebur 12,675 ft. high.

To the E., but at some distance from these mountain masses, is the road over the Brenner, which may be considered as the E. boundary line of the Rhaetian Alps. This road begins at Innsbruck, ascends the valley of the small river Sill, and passes thence over the watershed between the Inn and the Adige, where, N. of Störzing, it attains the elevation of 4,659 ft. It then descends in the valley of the Eisack from Brixen to Bolzano or Botzen, and thence to Roveredo and Verona. It is one of the most frequented commercial roads over the Alps.

This road may be considered as separating the W. from the E. Alps. The latter are distinguished from the former by being more distinctly divided by longitudinal valleys running W. and E.; by the greater number of separate ridges; their greater width and lesser elevation; the number of snow-topped mountains being comparatively few, and none of them occurring E. of 14° E. long. The northern half of this mountain region is known by the name of the Noric Alps; and the southern by those of Carinthian, CRAINIAN or Julian, and Dinarian Alps.

Not far distant from, and nearly parallel with, the N. border of this mountain region, extends a very long longitudinal valley from 11° to 15° E. long.; but it is divided by two transverse ridges into three valleys, in which flow the rivers Inn, the Upper Salzach and the Upper Enns, all of them running E. To the S. of the valley of the Salzach is placed the highest part of the Noric Alps. Many summits rise above the snow line, and between them are many extensive glaciers. The highest summits are the Gross Glockner, 12,567 ft.; the Gross Wiesbach, or Krummhorn, 11,844; and the Ankogel, 11,878 ft. above the sea. The longitudinal valley south of this range is divided by a transverse ridge into two valleys, of which the W. is drained by the Eisach, which runs W. and falls into the Adige. The E. valley is drained by the Drave, running E., and one of the largest tributaries of the Danube. The mountain chain dividing these from the plain of Lombardy is much less elevated, rising only in a few summits to above 8,000 ft., and none of them exceeding 9,000 ft. above the sea. Only the Terglou, which rises near 14° E. long., at the sources of the Save, attains a height of 9,884 ft., and is by many considered as the most E. snow mountain of the S. range of the Alps.

E. of 14° E. long. the Alps are divided into 5 ridges by 4 longitudinal valleys, all of them opening to the E. These valleys are traversed by the rivers Enns, Muhr, Drave, and Save. The Muhr suddenly turns S., and running through a wide and open transverse valley, empties itself into the Drave. The ranges enclosing these valleys on their N. and S. sides gradually decrease in height as they advance towards the E.; so that when arrived at 16° they may rather be termed hills than mountains, except the ridge which divides the valley of the Drave from that of the Save, which preserves its mountainous aspect beyond 18° E. long.; where, at the confluence of the Drave with the Danube, it sinks into low hills, but rises again into mountains towards the confluence of the Danube and of the Save, where it takes the name of Sirmian Mountains, or Fruzska Gora. This latter group may be considered as the most E. offset of the Alps, but rises hardly to more than 8,000 ft.

The range which divides the valleys of the Muhr and of the Ens turns S., and continues for a distance in that direction, forming the E. boundary of the transverse valley of the Muhr; but on the boundary line between Styria and Hungary, it subsides into low hills, which are followed by flat high ground, connecting the Alps with the forest of Bakony. This name is given to a low mountain range which separates the two plains of Hungary from one another, terminating where the Danube suddenly turns southward, and which may also be considered as one of the E. offsets of the Alps.

The most N. ridge of the Noric Alps, which skirts the valleys of the Salzach and Ens on the N., is broken through by these rivers where they turn N. to run to their recipient, the Danube. This ridge may be considered to terminate with the Schnieberg, near Neustadt, rising 6,882 ft. above the sea. This ridge sends numerous lateral branches to the N., which terminate close to, or at a short distance from, the Danube, between Linz and Vienna. But they rarely attain the height of 4,000 or 5,000 ft.

Through this part of the Alps lie the roads by which the towns of Linz and Vienna communicate with Italy and Trieste and Fiume. There are two carriage roads with different branches; having, as central points, the towns of Villach on the Drave in Carinthia, and of Laybach on the Save in Carniola. The first, uniting Linz on the Danube with Italy and Trieste, runs in the beginning mostly along the banks of the river Traun, in a WSW. direction, to the town of Salzburg on the Salzach: it then follows the valley of the last-mentioned river up to the place where it is divided by a transverse ridge from that of the Ens, and then passes over that ridge to Radstadt. Hence it directly ascends the elevated range which separates the valley of the Ens from that of the Muhr, and is known by the name of the Tanern. The highest point of this road, at Hirschwand, rises to 5,290 ft. above the sea. From S. Michael, in the valley of the Muhr, the road ascends again to pass over the third range, which divides the valley of the Muhr from that of the Drave. This chain, however, is much lower. The road leads to Spital on the Drave, and thence follows the banks of the river to Villach. From Villach it ascends the valley of the Gail, a tributary of the Drave, to Tarvis, where the roads leading to Italy and Trieste separate. The road to Italy turns W., traverses the most S. ridge by the pass of Ponteba, 2,572 ft. above the sea, and descends through the valley of the Tella to Treviso and Venice. The road to Trieste runs from Tarvis S., attains its highest point at the pass of Predil (3,840 ft. high), and descends thence in the valley of the Isonzo to Goerz or Gorizia, whence it turns S. to Veith and Trieste. This road is connected with that over the Brenner by a transverse road, uniting the valley of the Drave with that of the Eisach. It ascends along the Drave from Villach to Spital and Lienz, passes over the transverse bridge separating the valleys by the pass of Innich, and descends the Eisach in the wide valley of Puster to Brixen, where it joins the road over the Brenner.

The road between Vienna and the towns on the Adriatic runs in the beginning along the E. skirts of the Alps to Neustadt on the Leitha, whence it ascends the ridge called the Sommering, on whose summit it is 3,337 ft. above the sea. Hence it descends along the small river Mürz to Bruck on the Muhr. Along the last-named river it passes through Grätz to Marburg on the Drave. It then traverses the range separating the Drave and Save, passing through Wendisch, Teistritz, Cilli, and the

Trojana pass to Laybach. Between this place and Trieste is the mountainous country called the Adelsberg and Karst. Near Adelsberg the road rises 2,271 ft. above the sea; it thence descends to Senoetsh, and passing over the Karst arrives at Trieste. From the pass of Adelsberg a road branches off to Fiume.

There are two railways across the Alps, following, with but slight variation, the course of the roads here described. The first, and most westerly of the two, runs from Linz, *via* Salzbruck, to Innsbruck, where it is to cross the Brenner, falling into the plain of Lombardy at Botzen, and then going, in a straight line, to Trieste and Verona. The second railroad—the earliest that was ever completed across the Alps—goes from Vienna towards Gloggnitz, in a straight southerly direction, and then ascends, in constant curves, to Gratz and Cilli; the ascent, very considerable at some points, being overcome by powerful locomotives, specially built for this line. From Cilli and Laybach, the railway falls, in gradual curves, towards Trieste, throwing off branches in an easterly and westerly direction. The journey from Vienna to Trieste, on this line, occupies fifteen hours by the fast trains.

Two carriage roads unite this railway with that which connects Linz with Italy. The most N. runs in the valley of the Muhr westward, beginning at Bruck, and traversing Leoben, Indenburg, and Murau; at St. Michael it joins the other road. The S. runs in the valley of the Drave, between Marburg and Villach, and traverses Klagenfurt.

The Dinarian Alps, which may be considered as the link connecting the mountain system with the Balkhan mountains, occupy the country between the Gulph of Quarnero or Fiume and the rivers Verbas or Verbriza and Narenta in Turkey, and have obtained their name from Mount Dinara, their highest summit (nearly 44° N. lat.), which rises to 6,046 ft. above the sea. The principal ridge lies nearly parallel to the Adriatic, at a distance of about 30 miles more or less, and forms at the same time the watershed between the rivers falling into the Adriatic or joining the Save. Lower ridges, mostly parallel to the principal ridge, fill the country between it and the sea; but those branching off towards the Save run nearly S. and N. Opposite the Gulph of Quarnero, the higher mountains cover only a space of less than 80 miles from W. to E.; and as here the fertile plains of Hungary approach nearest the sea, the Austrian government, desirous of devising some means by which the abundant produce of that country could be brought to the markets of the commercial world, made in the last century two roads over the numerous ridges which traverse the country. They are known by the names of the Caroline and Josephine roads; the former rising at one point to 4,576 ft. above the sea. But the lines were not judiciously chosen. They run over a succession of steep acclivities and declivities; and, as they traverse a country destitute of water, they could only be used by light carriages and mules. But in the beginning of this century a company of private individuals constructed another and very superior road, on which all steep slopes have been avoided; so that it is practicable for carriages conveying the most bulky commodities from the interior of Hungary to the coast. This road begins on the coast at Fiume, ascends directly the mountains, passes through Kumenjak and Skerbuteryak, and terminates at Carlstadt on the Culpa, where this river begins to be navigable.

On three sides the Alps are surrounded by plains. On the S. by that of Lombardy, on the N. by those of Switzerland and Bavaria, and on the E. by the great plain of Hungary. The plain of Lombardy

is less elevated than those of Switzerland and Bavaria; for the Lago Maggiore is only 805 ft., and the lake of Como 697 ft.; whilst the lakes of Geneva, Zurich, and Constance are respectively 1,307, 1,810, 1,304 ft. above the sea. The highest ranges of the mountains are much nearer to the plain of Lombardy than to the plains on the N.; and their descent is much steeper towards Italy than towards Switzerland or Germany. The mean elevation of the great plain of Hungary is only 300 ft. above the sea; and in it terminate the E. extremities of the ranges, which nowhere rise to a great height.

The central ridges of the Alps are composed of primitive rocks, especially of granite and gneiss, and are distinguished by their pointed peaks. On the N. side of this formation extends a slate formation of considerable width. This does not appear to accompany the range on the S., except along the E. Alps, where it has been observed to extend from Brixen on the Eisach to Marburg on the Drave, skirting that river on the S. Beyond the slate formation, the chalk occupies a considerable space. It is found to occupy the greatest extent on the SE. of the mountain system, the whole Julian Alps being composed of it. On the opposite or NW. side, the sandstone formation extends from the lake of Geneva as far as the S. boundary of Bavaria. The chalk formation is distinguished by its summits, which do not rise in pointed peaks, but form either cones or cupolas.

All those parts of the numerous ridges which rise above the line of congelation are, of course, covered with snow all the year round. In many places the snow occupies a considerable space on the upper parts and summits of the rocky masses, and from these 'eternal reservoirs' of snow the glaciers are derived. The sides of the rocky mass are usually furrowed by long narrow valleys; and in these masses of snow, descending from the upper parts under the form of ice, extend the farther downward the greater the mass and height of the snow from which they are derived. These accumulations of snow and ice form glaciers, many of which are from 15 to 20 m. long. In the Introduction to Messrs. Longman's 'Guide to the Central Alps' (Part II. of Alpine Guide), will be found a detailed and interesting account of these phenomena. The author describes, in the first place, the manner in which the snow-dust and minute crystals are partially melted and fused by the influence of the sun in warm weather, and frozen together into compact particles of ice during the next interval of cold,—the alternate melting and congelation being continually repeated until the whole mass is converted into that peculiar condition called *névé*; and how, in the lapse of years, the *névé* increasing layer by layer, and each layer exerting considerable pressure on that beneath, the process of congelation gradually turns the deeper portions of the mass contained in the reservoir into compact ice. These reservoirs partaking of the slope of the mountains, and the ice in this state possessing considerable plasticity, the masses of *névé* gradually flow down through the channels of the valleys, or become glaciers. The Introduction goes on: 'We now see that the essential condition for the formation of a glacier is the existence of a reservoir large enough, and at a sufficient height, to accumulate such a mass of *névé* as will, by its weight, convert its own substance into ice, and force it to flow in whatever direction it encounters the least resistance. In moving onward the glacier conforms to the laws that regulate the motion of imperfect fluids. The resistance of the sides and the bed on which it moves retards the motion of the adjoining portions of the ice: the

centre, therefore, moves faster than the sides, and the surface faster than the bottom. When the ice-stream flows through a bend in the valley, the point of most rapid motion is shifted from the centre towards the convex side of the curve. While the ice thus conforms to the laws of fluid motion, the internal changes by which it is enabled thus to comport itself are peculiar, and have no example among other bodies of which we have experience. The nature of the motion, involving constant changes in the relative positions of the particles, implies fracture, which must be frequently renewed; but this would speedily reduce the whole to a mass of incoherent fragments, if it were not for the property of regelation. At each step in the progress of the glacier, this repairs the damage done to the continuity of the ice, and by the twofold process of *fracture and regelation*, the glacier moves onward, constantly changing its form, yet presenting a continuous mass of solid hard ice.' When the general movement of the glacier tends to draw asunder adjoining portions of ice, the mass is rent through, and *crevasses* are made. Where the descent is gradual, the surface of the glacier is nearly level, and offers few crevices; but where the declivity is rapid and uneven, the glacier is rent with numerous chasms, and covered with elevations, rising from 100 to 200 ft., having the aspect of a sea agitated by a hurricane. The chasms are frequently many feet wide, and more than 100 deep. Their formation, which never takes place in winter, but is frequent during summer, is accompanied with a loud noise resembling thunder, and a shock which makes the adjacent mountains tremble. These chasms are subject to change every day, and almost every hour, and it is this circumstance that renders the ascent of the glaciers so dangerous to travellers. Sometimes there are found in the glaciers pyramids of ice of a considerable elevation and a regular form, on the tops of which are placed large pieces of rocks. At the lower extremity of the glaciers is an excavation in the form of a grotto, frequently 100 feet high and from 60 to 80 wide, whence issues a small river, bringing down a bluish water. Though every single crystal of the ice of the glaciers seems perfectly white, the whole mass is of a blue colour, passing through every shade from the most feeble sky-blue to that of the lapis lazuli; it is most pure and beautiful in the lower parts of the chasms. The glaciers impart one of the greatest charms to the scenery of the Alps, by the beauty of their colour, and their contrast with the surrounding country, their lower extremities being commonly contiguous to meadows covered with the finest grass and the most beautiful flowers, and the declivities of the mountains which enclose them exhibiting large tracts clothed with magnificent trees, especially firs.

Avalanches are more frequent in the Alps than in most other mountains, because of the steepness of their declivities. The most common consist of masses of snow, which, commencing their descent at the higher parts of the mountains, and increasing in magnitude and velocity as they roll down to the valleys, overwhelm, in their headlong career, men and cattle, destroy villages and forests, and dam up and obstruct the course of rivers. Four kinds of avalanches may, however, be distinguished. 1. The *drift avalanche* takes place when the upper parts of the mountains have been covered by a heavy fall of snow during a calm, followed by a strong wind before the mass has acquired consistency. An immense mass of loose snow is then suddenly brought by the wind into the valleys, where it frequently covers villages; but in general these avalanches do not occasion

much damage, unless when they cause a compression of the air. This sort of avalanche usually occurs in the beginning of winter. 2. The *rolling* avalanches: these bring down great masses of compact snow, especially towards the end of the winter, when it begins to thaw. In their progress, they are increased by all the snow they meet in their descent; their impetus and mass being frequently such as to overwhelm and beat down every thing, rocks not even excepted, that may interrupt their course. These, the most destructive of the avalanches, cause great loss of life and property. 3. The *sliding* avalanches are masses of snow descending slowly along the surface of a not very steep declivity. They take place in spring, when a long thaw has dissolved that portion of the snow which lies immediately on the rocks, and thus loosened the bond with which the whole mass is united to its base. They carry before them every thing that is too weak to withstand their pressure. They sometimes occasion considerable loss, but not frequently. 4. The ice or *glacier* avalanches are formed by larger or smaller pieces of ice, detached from a glacier by the summer's heat. They are precipitated downwards with a noise like thunder. When seen from a distance, they resemble the cataract of a powerful river. As they generally descend into uninhabited places, they seldom do much damage.

The rolling and sliding avalanches expose travellers to the greatest dangers they have to incur in traversing the Alps. There are, in fact, certain localities on the most frequented roads, to which they descend annually, and which are consequently very dangerous. To obviate the risk of accidents from this cause, in the construction of new roads, as of those of the Simplon and over Monte Stelvio, care has been taken at such places to excavate the mountain to a certain depth, and to cover over the road with strongly built arches, which effectually provide for the safety of the traveller. A few places on the roads are also rendered unsafe by less or greater pieces of rock, which descend with fearful velocity from the steep declivities of the mountains. This usually happens when, after some days' continued rain, a strong wind arises, and shakes the higher portion of the mountains. Luckily, however, such places are not frequent. Travellers on the glaciers run the risk of falling into chasms, or of finding the ice under their feet suddenly opening in the progress of the formation of a new chasm.

The scenery of the Alps owes a part of its numerous charms to the great number of extensive lakes, of which nearly every one is distinguished by some peculiar beauties. Most of them have an easy access, being situated on or near the outskirts of the range, as the lakes of Geneva, Constance, and Zurich; or partly within and partly without the range, as the lake of the Four Cantons, and the Lago Maggiore and that of Como, and the beautiful lakes in Austria. Innumerable are the small lakes which occur on or near the summits of the high ridges and glaciers. Most of the rivers and torrents have their sources in such lakes.

The chalk formation of the Julian Alps offers the most interesting natural phenomena. It consists of a fine-grained, much-decomposed primitive chalk, which is rent by a great number of extensive crevices and precipices, and frequently forms deep depressions in the fashion of funnels. In it occur numerous caverns and subterranean galleries of great extent, in which everywhere the finest and most fantastic stalactites are formed. More than a thousand such caverns are already known, and many have never been visited. The most remarkable are those of Adelsberg (which see), Magdalen in its neighbourhood, Zirknitz, &c.

Numerous too are the rivers and torrents which suddenly disappear underground, precipitating themselves into a large chasm, and re-appearing after a subterranean course of many miles. Here are also many intermittent wells, which, at certain seasons, emit large quantities of water, and at others are dry. Several of them feed the lake of Zirknitz, which has acquired celebrity for being for several months quite dry, and for several others filled with water; so that it serves each year successively for tillage, pasturage, hunting, and fishing!

The Alps are not rich in metals, except iron. Some mines of gold and silver occur on the S. as well as on the N. declivity, especially in the Austrian dominions; but their produce is inconsiderable. Others of copper and lead are more productive; but they too are comparatively poor, except the Bleiberg (lead mountain) of Carinthia, which furnishes some of the best lead in Europe. The quicksilver mines of Idria, NNE. of Trieste, are reckoned among the richest of the globe. The iron mines of Styria, Carinthia, and Carniola are very productive, and their produce hardly inferior to any of Europe. Rock-salt occurs only in a very few places in the W. Alps; but on the N. side of the E. Alps are very rich layers of that mineral, running, as it seems, in a continuous line from the banks of the Inn at Halle to those of the Enns in Austria. They are worked with great industry at different places.

Vegetation covers the greater part of the Alps. The larger valleys, none of which rise to 5,000 ft. above the sea, contain some tracts fit for agricultural purposes. They consist generally of uneven ground, extending on both sides a river. Behind it the mountains rise with a steep and commonly inaccessible ascent, which is covered with high trees; in the lower parts with oak, beech, elm, &c.; and in the upper region with fir, pine, larch, and the *Pinus Cembra*. Near the region of the pastures the trees dwindle down to low bushes. The pasture region, which occupies the next place, offers commonly a plain strongly inclined towards the valley, and is in general of considerable width. It is called in Switzerland the *Alps*. Here are found the huts or *seams* of the herdsmen, inhabited only in summer, when the cattle are brought to these pastures. The upper part of the range is occupied by bare rocks, many of which rise above the line of congelation. This line occurs in the Alps between 8,000 and 9,000 ft. above the sea, and is lower on the N. than on the S. declivity.

Corn is grown on the N. side, not above 3,800 or 4,000 ft.; but on the S. it succeeds 1,500 ft. higher. The highest place at which barley ripens is Skala in the Engadin, 5,950 ft. above the sea. High trees are found in some places not above 4,500 ft., at others they ascend the declivities even to 7,000 ft. and more. Oak is found up to 4,000 ft., elm to 4,300, ash somewhat higher, beech to 5,000, fir to 5,300, mountain ash to 5,600, birch to 5,700, pines to 6,500, and larch to 7,000 or 7,300 ft. above the sea. Where the high trees begin to cease, the mountains are covered with bushes and the Alpine rose (*Rhododendron ferrugineum* and *hirsutum*). Beyond the upper limit of trees, are found the saxifrage, primrose, pedicularis, anemone, gentian, and other specimens of the brilliant Alpine flora.

The author of the 'Alpine Guide' just quoted, divides the Alps, geologically, into thirty-three groups. He says: 'To the modern race of Swiss geologists belongs the credit of having ascertained the real order of succession of the strata, and the general plan of structure which prevails throughout the entire chain. M. Studer, who holds a foremost place amongst Alpine geologists, recognises the existence in the Alps of a series of

groups, each with its crystalline centre, sometimes parallel to each other, sometimes arranged *en échelon*, like the squares of a chess-board.

The intervals between the higher crystalline masses had been imperfectly studied by the earlier geologists. It is now known that these intermediate species, which we shall designate by the general term *trough* [*Fr. mail*, Germ. *mulde*], are formed of rocks completely different from those constituting the crystalline centres. As a general rule, these are stratified rocks of softer and less resisting texture. The crystalline masses may be regarded as islets, which, in the process of upheaval, have driven back or tilted up the deposits through which they forced their way. It is, therefore, in the troughs or spaces, where it has been less disturbed, that the clue to the original geological structure must be sought.

The inhabitants of those ranges of the Alps which extend from the Mediterranean to the lake of Geneva are mostly of French origin, speaking a corrupt dialect of the French language. In the remainder of the mountain system the population is of Teutonic origin, only a few of the more open valleys terminating in the plain of Lombardy, speaking a dialect of the Italian language. The most E. extremity of the whole range, between the rivers Muhr and Save and the Julian Alps, is partly inhabited by a population of Slavonian origin, called the Wendes or Slovenzi. As the tracts of land fit for agricultural purposes are of comparatively small extent, the rearing of cattle and the making of butter and cheese constitute the principal employment. Many of the inhabitants migrate, at certain seasons, to the neighbouring countries in search of work. Some of them return annually, some after the lapse of some years. Besides the dairy, the mines give employment to a number of inhabitants; but this is only the case in the Alps of Styria, Carinthia, and Carniola, where rich mines of iron and extensive layers of salt are found. In these districts, also, are some manufactures of hardware and iron utensils. In the other parts of the range manufacturing industry is almost unknown; but near its outskirts on the N. side it has in later times become so diffused, that it hardly yields to any other part of the continent. The inhabitants of the mountains are distinguished by their love of liberty, their opposition to every kind of oppression, the frankness of their behaviour, their adherence to their old manners and dress, and their fidelity and honesty.

The Alps did not become well known till the reign of Augustus. That emperor finally subdued the numerous and savage clans which inhabited the Alpine valleys, and cleared the passes of the banditti by which they were infested. He improved the old roads, constructed new ones, and succeeded in establishing free and easy communications across the mountains. The chain was then divided into separate portions, which have preserved their boundaries and denominations nearly to the present day.

The exploration of the Alps has, within the last few years, excited a considerable amount of public interest, principally through the exertions and achievements of the Alpine Club. In 1859, the Rev. C. Hudson established the practicability of reaching the summit of Mont Blanc by the ridge from the Dôme du Goûté. The highest pinnacle of Monte Rosa, 15,217 ft., was reached for the first time in 1855 by Messrs. G. and C. Smith and three other gentlemen. The north end, 15,182 ft., was ascended for the first time in 1861 by Sir T. F. Buxton, Mr. E. Buxton, and Mr. Cowell. The Lyakamm, 14,889 ft., was ascended by the

Rev. F. W. Hardy, for the first time, by the Monte Rosa glacier. The Weisshorn, Pennine Alps, 14,804 ft., of which the ascent is one of the most difficult and laborious yet accomplished, was first ascended by Professor Tyndall in 1861. Monte Viso, Cottian Alps, 12,643 ft., which long had the reputation of being inaccessible, was ascended in 1861 by Messrs. W. Mathews and F. W. Jacomb; and a second ascent was made in 1862 by Mr. Tuckett. The Grand Combiu, Pennine Alps, 14,164 ft., was long one of the least known of Alpine summits; but in 1857 Mr. W. Mathews reached its second peak, and in 1860 a Swiss gentleman attained the highest, and an English officer performed the same feat almost immediately afterwards. The Dom, 14,935 ft., the highest peak of the Saas Grät, Pennine Alps, was ascended for the first time by the Rev. Llewellyn Davies. The ascent of the Dent Blanche, 14,818 ft., a most difficult undertaking, is only known to have been achieved once—by Mr. T. S. Kennedy and a party of friends, in the year 1862.

Amongst the passes recently opened may be mentioned the Ried Pass, from Saas to St. Niklaus, discovered by Professor Ulrick; the Col de Gran-crou, from Cogne to Ceresole, first effected in 1862 by Mr. F. F. Tuckett; the Jungfrau Joch, from Wengern Alp to Eggischhorn, one of the most difficult passes yet accomplished, and considered insurmountable until ascended, in 1862, by the Rev. Leslie Stephen and other enterprising members of the Alpine Club; the Eiger Joch, effected but once, in 1859, by the Rev. Leslie Stephen and friends; the Lawinen Thor, a pass made and named by Professor Tyndall in 1860; and the Studer Joch, from Grimsel to the Eggischhorn, a most difficult pass traversed by Messrs. Macdonald, Buxton, Grove, and Hall, in 1863.

ALPS (LOWER), *Basses Alpes*, a frontier dep. in the SE. of France, having E. the Sardinian states, S. the dep. of the Var, W. dep. Vaucluse, and N. the depts. Drôme and Hautes Alpes. Area, 682,648 hectares. Pop. 146,868 in 1861, against 152,070 in 1851, showing a considerable decline in the decennial period. This dep. derives its name from its being principally occupied by the W. slope of the Alps. Its aspect is highly varied and picturesque, presenting a succession of high rugged mountains, crowned with eternal snow, vast sombre forests, and low, rich, smiling valleys. The mountains and hills occupy about half the surface, and the woods about a sixth part; the extent of cultivated land is estimated at 155,000 hect., of meadows at nearly 18,000, and vineyards at 14,000 do. The principal river is the Durance, which traverses the dep. from N. to S.; it is also in part intersected, and in part bounded, by the Verdon, and is watered by many mountain streams, the inundations of which often occasion great mischief. The climate varies, of course, with the elevation and exposure of the soil. There is a good deal of spade husbandry; and mules and asses are used in preference to either horses or oxen. Produce of corn crops insufficient for the consumption. Potatoes extensively cultivated. Olive, fig, and mulberry trees, are all cultivated in the lower and warmer districts, and dried and other fruits make a considerable article of export. The lower mountains afford excellent sheep pasture. They belong partly to individuals, and partly to communes; and besides the stationary sheep, or those that belong to the dep., about 400,000 head are annually brought from the adjoining depts. of the Var and the *Bouches du Rhône*, to be depastured for about four months in summer on the mountains referred to. They pay at the rate of from 1 fr. to 1 fr. 25 cent. per head; and both their size, and the quality

of their flesh and wool, are said to be materially improved by the change. The shepherds never quit their charge either by night or by day. Besides the sheep belonging to the dep., the breed of which has been materially improved, it has a great number of goats; and the rearing of bees is also much attended to. There are mines, but not very productive, of iron, lead, copper, and coal. Manufactures have not made much progress; but there are several silk filatures and silk looms, with manufactures of cloth, hats, earthenware, and tanneries. Great numbers of the poorer classes leave their homes for a portion of the year to seek employment in the neighbouring depts. It has 5 arrond., 80 cant., and 257 communes. Principal towns Digne, Sisteron, and Barcelonnette, in the picturesque valley of the same name.

ALPS (UPPER), Hautes Alpes, a frontier dep. in the SE. of France, on the N. side of the dep. of the *Basses Alpes*, and having on the E. the Sardinian states. Area, 553,264 hect. Pop. 125,100 in 1861. The pop. numbered 132,088 in 1851, so that there was a decline during these ten years. The department of Hautes Alpes differs in few respects from that just described, except that it is more mountainous and less fruitful. Some of the mountains rank, in fact, among the highest in the immense chain of which they form a part. Mont Peloux, the most elevated, rises 14,120 ft. above the level of the sea, and Mont Olan 13,461 do. The mean elevation of the mountains may be taken at about 9,000 feet, and the elevation of the highest cols or passes from one valley to another sometimes exceeds 7,000 feet. There are several glaciers in the N. part of the dep. Agriculture similar to that of the *Basses Alpes*. Only 97,500 hect. of surface is cultivated; 77,000 hect. are occupied by woods and forests, and about 24,000 by meadows, the irrigation of which is an object of great importance. The valleys principally lie alongside the rivers Durance, Bruch, and Drac. Inhabitants poor and laborious. *Greniers d'abondance*, or corn magazines, are established in different communes, which make loans of seed and necessaries to poor families. There are mines of iron, lead, and other minerals. Manufactures principally confined to coarse cloth, linen, stockings, and hats, required for the use of the inhabitants. The cheese and butter of the Briançonnais are highly esteemed. Bread made of potatoes is extensively used. Families using rye bread commonly bake it only once a year; it keeps for 15 or 18 months, is hard, and has to be broken to pieces by a hatchet. Between 4,000 and 5,000 of the peasants leave the dep. every year in the beginning of October, and return early in June. It is estimated that at an average about a fifth part of those that emigrate never return, and that those who do, bring back with them about 200 fr. a piece; the emigrants principally take to the trades of pedlars and showmen. The department has 3 arrond., 24 cant., and 189 communes. Principal towns Gap, Briançon, and Embrun.

ALRESFORD, a market town and two parishes of England, co. Hants, hund. Alton. The town is situated on the Itchin, at no great distance from its source, 57½ m. SW. by W. London. It is divided into Old and New Alresford; pop. of Old A. 526, and of New A. 1,546 in 1861. It was formerly a place of much more importance than at present, and sent a member to the H. of C.

ALSEN, an island in the Baltic, formerly belonging to Denmark, and ceded to Germany by the treaty of Vienna of Oct. 80, 1864. It is separated by a very narrow channel from Schleswig, and by the Little Belt from Funen. Shape irregular, being about 20 m. long, and from 8 to 8 in

breadth. Pop. 22,500 in 1860. Surface pleasantly diversified with wood and open fields. All the country houses are surrounded by fruit trees, and large quantities of fruit are annually exported. Principal towns Norborg and Sonderborg. Christian II., deposed by the states of Denmark in 1523, was confined for nearly 17 years in a tower in the castle of Sonderborg. The island was taken by the allied Prussians and Austrians from the Danes in June, 1864, the Danes having withdrawn to it after the unsuccessful defence of Düppel on the opposite mainland. The capture of Alsen was the last event of the war.

ALSFELD, a walled town of Hesse Darmstadt, cap. bailiwick, on its N. frontier on the Schwalm. Pop. 4,153 in 1861. It has manufactures of rattleens, flannels, and linen, with considerable bleach fields and print works.

ALSLEBEN, a walled town and castle of Prussian Saxony, reg. Merseburg, on the Saale. Pop. 3,009 in 1861. The castle is the property of the Duke of Anhalt Dessau.

ALTAI MOUNTAINS (THE), a series of mountain ranges of central Asia, forming an Alpine belt, intersected by wide valleys and traversed by numerous rivers, extending from W. to E., about the parallel of 50° N. between the meridian of 84° and 100° E., where the Altai proper is separated from the system known as the Daurian, by Lakes Koezool and Baikal. The name had formerly a much more extensive meaning, the range being reckoned as extending from the eastern banks of the Irtysh, a tributary of the Ob (80° E. long.), to the shores of the Pacific, at the S. extremity of the Sea of Okhotsk, opposite the island of Tarakai (142° E. long.). Its length, therefore, was counted little short of 2,500 m. It was, however, not possible to determine it with any degree of exactness, since only the N. declivities of the range had been visited by travellers, the S. declivities lying within the territories of the Chinese empire being inaccessible to Europeans. Of late years, however, the mountain ranges between the frontiers of Russia and China, especially in the west, have been the scene of repeated explorations by Russian travellers; while our own countryman, Mr. Atkinson, since 1846, devoted many years of his life to the same task.

The most westerly portion of the system, between the river Irtysh and the river Tshulyshman, the upper branch of the Ob, is properly called the Altai Mountains, which name has been afterwards used to indicate the whole system. This portion bears also the name of the Ore Altai, because it contains numerous veins of the precious metals. It consists of several ridges, which mostly run WNW. and ESE. These ridges advance their W. extremities close to the banks of the Irtysh, where they are 500 or 600 ft. high, but at a distance of about 15 or 20 miles from the river they attain from 3,000 to 5,000 ft., which elevation may be considered as the mean height of the greatest part of the ranges; only where they approach the lake Teletzkoi and the river Tshulyshman they rise still higher, even to 10,000 ft., and this part is always covered with snow. It is called Altai Bielhi, and is, so far as is known, the highest portion of the system. Mount Katunak, or Bilouka, is 12,796 ft. high.

Between the Tshulyshman and the great lake of Baikal, the mountains appear to form two great chains, running E. and W.; of which the S., which falls within the Chinese empire, and is called the Tangnu Oola, or Tangnu Shan, seems to be the principal range. It is divided from the N. chain by a long valley, in which run the Kemtschik from W. to E., and the Oulou-kem from E. to W.;

after their junction the river is called Yenesei, and breaks through the N. chain. The portion of the latter situated W. of the Yenesei river is called the Sayansian range, but the E. chain bears the name of Ergik Targak Taiga. Both chains unite about 100° E. long., at a considerable distance W. of the lake Baikal, at the sources of the Selenga, the most considerable river which empties itself into the lake. The united chain is here called Goorbi Ulden Dzong, which name it preserves to 108° E. long., running in general E. On the E. side of the meridian of 108° E. long. and the river Selenga, the direction of the mountain chains composing the Altai system is changed; they run NE., and form a very extensive mountain region E. of the lake Baikal. This region is called the Baikalian or Daurian Mountains; but the highest chain belonging to it, and lying within the Chinese empire, bears the name of the Great Khing-Khan. The most easterly portion of the Altai Mountains, between 122° and 142° E. long., lies again nearly due W. and E.; but here it advances to 56° N. lat., and is called by the Russians Yabloni Kherbet, and by the Chinese Khing-Khan Tugurik.

The Aldan Mountains may be considered as a continuation of this latter chain. They separate from it at the sources of the river Aldan, a tributary of the Lena, enclose the valley in which it runs on either side, and continue on the E. side along the shores of the Sea of Okhotsk up to the bay of Perkhina, the most northerly corner of that sea. From this bay one branch runs NE., and terminates at Behring's Straits with the East Cape and the Cape of Tshukotskoi-Nosa. Another branch turns abruptly S., and traverses the peninsula of Kamtschatka, terminating at Cape Lopatka. The highest summit of the Aldan Mountains, adjacent to the road connecting Yakutzk with Okhotsk, was found by Erman to be 4,055 ft. above the sea. But the chain traversing the peninsula of Kamtschatka contains several volcanoes, some of which rise to a great elevation. Erman measured three of them. The highest peak of the volcano of Shivelutsk (86° 40' 32" N. lat.) rises to 10,591 ft., the volcano of Kliutshuvak (56° 4' N. lat.) 15,825 ft., and that of Tolbatschinsk 8,846 feet above the sea. If the Aldan Mountains and the range traversing Kamtschatka be considered as a continuation of the Altai chain, more than 1,500 miles must be added to its length.

The country extending N. of the Altai Mountains and the mountain chains which continue the range to the eastward to the shores of the Polar Sea, form one continuous plain, sometimes of an undulating surface, but mostly exhibiting immense flat lowlands, called, as others of a similar description, *steppes*. This plain, at the foot of the range, is hardly more than 500 ft. above the sea, to which it gradually slopes down. On the other hand, the countries lying S. of the Altai Mountains constitute a portion of the great elevated table-land of Upper Asia. Their surface is much more uneven, being traversed in many parts by ridges of rocks and hills, whilst others present themselves as immense plains covered with sand. The mean elevation of these countries seems to be from 2,000 to 3,000 feet above the level of the sea.

Roads.—Two roads lead over the Altai, and one over the Aldan Mountains. That most to the W. is the great road of Kiachta, by which the commerce between Russia and China is carried on. It begins at Irkutsk, the capital of East Siberia, situated on the Lower Angara, not far from the point where it issues from the lake Baikal. From this town, which is 1,440 ft. above the sea level, goods are carried in summer by water, and in winter over the ice of the lake, to Udinsk, and hence to Sele-

ginsk, where they are landed, and transported to Kiachta, the Russian commercial establishment, and exchanged with the goods brought by the Chinese to Maimatshin. The Chinese bring the goods to Urga, the provincial capital of the adjacent country; and in advancing farther S. they attain the highest point of the range S. of Urga, on the mountain Dshingalants, S. of the river Tola, where it rises to 5,055 feet above the sea. They afterwards descend to the table-land, and traverse the great desert of Cobi, or rather Gobi, sometimes called Shamo. The other great road leads from Udinsk, on the river Selenga, to the mining district of Nertchinsk. From Udinsk it runs E. in the valley of the river Uda, a tributary of the Selenga, somewhat more than 250 m.; then it traverses the highest part of the range near 112° E. long., and descends into the valley of the Ingoda, in which it continues to Gorodisktschenk, where the Ingoda unites with the Onon, and forms the Shilka river. On the banks of the last-mentioned river it continues to Nertchinsk. The great road over the Aldan Mountains connects Yakutzk with Okhotsk. Yakutzk is only 287 feet above the level of the Polar Sea. Between this place and the river Aldan the road rises gradually, and attains at Nokhinsk, on the heights forming the W. bank of the Aldan river, 751 feet. In the valley of the Aldan it descends to 424 feet above the sea. E. of this river the road rises to 1,531 feet at Garnastakh, and in the mountain pass six miles W. from Khoinia to 2,619. It continues nearly on this level for several miles, and then descends with a rather steep declivity towards the Sea of Okhotsk. This latter place is only 3 feet above the sea.

Mines.—The Altai Mountains are rich in metals, especially in gold, silver, copper, and lead. The mines from which these metals are extracted have been worked on a large scale at some unknown period, and by an unknown nation. In the middle of last century the Russians, following the traces of the ancient mines, began to work them; but only at the W. extremity of the mountain system, between the Irish and the Oby, and again on the banks of the Shilka river, east of the lake Baikal. The first mines are comprised in the mining district of Barnaul, and the second in that of Nertchinsk.

Latterly, however, the mines have been comparatively abandoned, and the attention of all parties is now directed to the washing of the *detritus*, or sand, earth, and gravel, found in the valleys and in the beds of the various affluents of the Irish, Oby, Yenesei, and other great rivers that have their sources in the N. slope of the mountains. These efforts have met with great success; and the country of which Barnaul on the Oby (in about lat. 48° N., long. 88° E.), and Krasnojarsk on the Yenisei (lat. 56° 1' N., long. 92° 57' 15" E.) are the capitals, is by far the most important and valuable of the auriferous regions of the Old World. The district, of which Nertchinsk, to the E. of Lake Baikal, is the capital, is also, though in a very inferior degree, productive of gold. The produce of the Siberian Gold-Washings amounts, on the average, to 1,000 poods, or about 45,000 pounds per annum. In 1887, they produced but 182 poods, but the quantity of gold found annually increased every successive year, till it rose to 1,362 poods in 1846. The productivity, after this period, slightly declined, remaining, however, about a thousand poods, worth nearly 8,000,000*l.* By far the greater portion of the gold is raised by private adventurers.

As the existing detritus must be enriched by all the gold brought down from the mountains during a long course of ages, the probability is that the

washings will in the end become less productive. But such is the extent of the auriferous region that it has hitherto been only imperfectly explored, much less exhausted. Silver, copper, and other valuable products are also found in this region. They are, however, of trivial importance, as compared with the supplies of gold.

At Kolyvano Wokresensk are extensive polishing works, where granite, porphyry, jasper, agate, and marble are worked into tables, vases, chimney-pieces, basins, and columns. The material is brought from the river Korgon, and the workmen are employed at the expense of government.

ALTAMURA, a town of Southern Italy, prov. Bari, at the foot of the Apennines, 29 m. SW. Bari. Pop. 17,365 in 1862. The town is surrounded by walls, has a magnificent cathedral founded by Frederick II., an hospital and a lyceum, and is one of the handsomest towns in the province. Having taken part with the republican party in 1799, it was taken by the royalists, and given up to military execution; but it has since recovered its former prosperity. Altamura is supposed to be founded on or near the site of the ancient *Lupazia*. This opinion is strengthened by the number of Grecian vases, of the most beautiful forms and workmanship, and other antiquities, that have been found in excavations in the town and its vicinity. The surrounding country is fertile, being especially distinguished by the excellence of its pastures.

ALTAVILLA, a town of Southern Italy, prov. Avellino, 7 m. N. Avellino. Pop. 2,717 in 1862. This also is the name of a town in the prov. Salerno. Pop. 3,896 in 1862.

ALTDORF, a town of Bavaria, circ. Regat, 18 m. SE. Nuremberg. Pop. 2,800 in 1861. A great number of wooden toys are manufactured here, and are exported to all parts of Europe and to S. America. There are also considerable breweries. The surrounding country is beautiful and fertile.

ALTEA, a town of Spain, Valencia, near the sea, 30 m. NE. Alicante. Pop. 5,502 in 1867. The town has glass works; and the contiguous territory produces cotton, wine, flax, silk, and honey.

ALTENA, a town of Prussian Westphalia, cap. circ. same name, on the Senne. Pop. 6,942 in 1861. The inhabitants are principally employed in wire-drawing and in the manufacture of needles, pins, and thimbles.

ALTENAU, a mining town of Hanover, prov. Grubenhagen, Hartz mountains, about 1500 feet above the level of the sea. Pop. 1,996 in 1861. There are in the vicinity mines of silver, copper, and iron.

ALTENBERG, a town of the kingdom of Saxony in the Erzgebirge mountains, 22 m. S. Dresden. Pop. 2,419 in 1861. It manufactures lace. The surrounding mountains abound in tin, and are covered with forests.

ALTENBRUCK, a town of Hanover, on the Werne, near where it falls into the estuary of the Elbe, a little above Cuxhaven. Pop. 2,550 in 1861. The town has some trade in corn and cattle.

ALTENBURG, or **SAXE-ALTENBURG**, one of the small German States, governed by a sovereign duke. The duchy is divided into two principal parts by the lordship of Gera, with several detached portions in other states. Area, 509 sq. m. Pop. 187,888 in 1861. The W. part, watered by the Saale, is hilly and woody; while the E. part, watered by the Pleisse, is flat and fertile. The inhab., who are descendants of the Wendes, are industrious, and are almost all Lutherans. The annual revenue from 1862 to 1864 amounted to 123,498*l.*, and annual expenditure to 120,051*l.*, one-half of the revenue produced by state domains

and about one-third by indirect taxes. Altenburg contributes 1,621 infantry with 17 artillerymen to the army of the Confederation, Prussia appointing the officers. In 1826, by a general exchange of territories among the Saxon princes, the state was handed over to the Hildburghausen branch of the Saxon princes. (See **SAXONY**.)

ALTENBURG, the cap. of the above principality, 24 m. SSE. Leipzig, near the Pleisse, on the railway from Berlin to Munich. Pop. 17,168 in 1861. The town is well built; has a gymnasium, with a considerable library, a foundation for noble ladies, an orphan asylum, and a theatre; with manufactures of wool, tobacco, sealing-wax, gloves, and an extensive trade in wood, corn, and cattle.

ALTENBURG, or *Ovar*, a town of Hungary, 29 m. SSE. Knoxburg, in an island of the Fritha, at the point where it unites with the right arm of the Danube. Pop. 3,150 in 1858. It has a gymnasium and an old castle, now used as a corn magazine. It was burnt by the Turks in 1688.

ALTENKIRCHEN, a town of the Prussian states, prov. Rhine, cap. circ. on the Wied, 16 m. N. Coblenz. Pop. 1,697 in 1861. It has some fabrics of linen and cotton, and a forge. The vicinity of this town was, in 1796, the theatre of some obstinate conflicts between the French and Austrians; in one of which, on the 21st September, the brave General Marceau was killed.

ALTENSTEIG, a town of Württemberg, circ. Black Forest, 5 m. WNW. Nagold. Pop. 2,100 in 1861. It is built on the declivity of a steep hill, at the summit of which is an old castle.

ALTER-DO-CHAO, a town of Portugal, prov. Alemtejo, on the Avis, 14 m. WSW. Portalgre. Pop. 2,225 in 1858. It is surrounded by walls.

ALTKIRCH, a town of France, dep. Haut Rhin, cap. arrond., 84 m. S. Colmar. Pop. 3,108 in 1861. It is situated on a hill, at the bottom of which is the Ill; has some tanneries, and a cattle fair once a month.

ALTMONTE, a town of South Italy, prov. Cosenza, 24 m. NNW. Cosenza. Pop. 2,988 in 1862. It is situated on an eminence, has good air, with mines of iron and silver, and a brine spring in the vicinity.

ALTON, a town of the U. States, Illinois, on the Mississippi, a little above its confluence with the Missouri. This town was founded in 1818, and in 1832 contained only two or three dozen houses. But the public attention having been then directed to its advantageous situation for commerce and navigation, it advanced with extraordinary rapidity, and, in 1860, had a pop. of 7,388.

ALTON, a m. town and parish of England, co. Hants, hund. Alton, on the Wye, 47 m. SW. by S. London, on the London and South-Western railway. Pop. 8,286 in 1861. It is a neat town, with manufactures of druggets and worsteds.

ALTONA, a considerable city of Holstein, on the Elbe, 2 m. W. Hamburg, and at the head of the railway from Altona to Kiel. Pop. in 1860, 45,524. It is well built, is a free port, and enjoys various privileges. Altona has a good deal of trade; ship-building is also carried on to a considerable extent; and there are manufactures of cotton, silk, and leather articles, with sugar-houses, breweries, and distilleries. There is here a superior academy or college, a public library, a mint, an orphan-house, with numerous churches. The inhabitants are mostly Lutherans. Altona was burned by the Swedes in 1718, under circumstances of great barbarity.

ALTORF, or **ALTDORF**, a town of Switzerland, cap. cant. Uri, situated in a narrow valley surrounded by lofty mountains, near the SE. extremity of the lake of Lucerne, at the N. extremity

of the pass over Mount St. Gothard. Pop. 2,426 in 1860. The town suffered severely from a fire in 1799, but has been rebuilt on an improved plan. It has a handsome parish church, a town-house, and a Capuchin convent, with a library attached. Altorf is intimately associated with the history, or legend, of William Tell. He is said to have been born in Burglen, a village close by; and an old tower in the town of Altorf, covered with paintings in honour of Tell, is said to mark the spot whence he shot the apple off his son's head.

ALTRINGHAM, a town of England, Cheshire, 8 m. Manchester, on the railway from Manchester to Crewe. Pop. 6,628 in 1861. It is a neat, thriving town, with factories for the spinning of cotton and linen yarn.

ALTSOHL, a free town of Hungary, at the confluence of the Slatina with the Gran; lat. 48° 34' 55" N., long. 19° 7' 20" E. Pop. 2,800 in 1857. The town is old, and is entirely occupied by Slavonians. On a hill in the neighbourhood are the ruins of a castle, said to have been a favourite residence of Mathias I.

ALTSTETTEN, a town of Switzerland, cant. St. Gall, 9 m. S. from the embouchure of the Rhine in the lake of Constance. Pop. 7,266 in 1860. It is situated on the declivity of a mountain in a beautiful country, surrounded with corn-fields and vineyards; has a fine church which serves both for Catholics and Protestants, a public library, a mulin manufactory, and three fairs annually.

ALTURA, a town of Spain, Valencia, 8 m. NW. Segorbe. Pop. 3,900 in 1857. The town has distilleries, potteries, and a paper-mill. The country round produces a great deal of wine.

ALVA, a village and parish of Scotland, co. Stirling, 7 m. NE. Stirling. Pop. of par. 3,283 in 1861. The Devon iron company has considerable works here; but the chief industry is the manufacture of tartan shawls and blankets, as in the neighbouring town of Tillicoultry.

ALVARADO, a small town of Mexico, near the mouth of the river of the same name, 40 m. SSE. Vera Cruz; lat. 18° 34' 18" N., long. 65° 39' 15" W. The bar at the mouth of the river, about 1½ m. below the town, renders it inaccessible for vessels drawing above 10 or 12 feet water; large ships being in consequence obliged to anchor in the roads, exposed to all the fury of the N. winds, which often blow with much violence. During the period that the castle of St. Juan d'Ulloa continued in possession of the Spaniards, after Vera Cruz had thrown off their yoke, the trade of the latter was principally carried on through Alvarado; but upon the reduction of the castle by the patriots, it speedily reverted to its old channel. Pop. estimated at about 6,000.

ALVINCZ, a town of Transylvania, on the Maros, opposite Roberick, 7 m. SW. Karlsburg. Pop. 1,570 in 1857. The inhabs. are almost all Magyars and Bulgarians.

ALVITO, a town of South Italy, prov. Caserta, 6½ m. SE. Sora. Pop. 4,242 in 1861. The town is built on a declivity of a hill, in a healthy situation; has an hospital, and several *monte-de-piété* for the marriage of young girls.

ALWUR, a large town of Hindostan, prov. Delhi, cap. dominions of the Macherry Raja, 90 m. SSW. Delhi; lat. 27° 44' N., long. 76° 32' E. It is situated at the base of a steep hill, and is strongly fortified. On the summit of the hill, about 1,200 feet high, is a fortress containing several tanks.

ALYTH, a town and parish of Scotland, co. Perth, 12 m. W. Forfar. Pop. of par., 3,422 in 1861. The soil is fertile, and the town, which is

finely situated, carries on some branches of the linen manufactory.

ALZEY, a walled town of Hesse Darmstadt, on the Selz, 18 m. SSW. Mayence. Pop. 4,609 in 1861. It has manufactures of linen and stockings, and tanneries.

ALZONNE, a town of France, dep. Aude, at the confluence of the Lampy and the Fresquel, near the canal of Languedoc, 12 m. WNW. Carcassonne. Pop. 1,566 in 1861. It has manufactures of fine cloth, caps, and lace.

AMAK, a small Danish island, on which a part of Copenhagen is built. It is principally laid out in gardens and pleasure-grounds.

AMALPHI, a city and seaport of South Italy, prov. Salerno, 9 m. WSW. Salerno. Pop. 6,506 in 1862. This city attained during the early part of the middle ages to great distinction as an independent maritime republic, and was the first Italian state that traded with Egypt and the shores of the Mediterranean. In the zenith of her prosperity, in the eleventh century, Amalphi is said to have contained 50,000 citizens; and her wealth, and the skill and intrepidity of her mariners were then unequalled. But after being reduced by the Normans, she was taken and sacked by the Pisans, in 1180; and from this period she rapidly declined, and not long after fell into obscurity. A unique copy of Justinian's Pandects, said to have been found by the Pisans among the spoils of this city, was believed to have led to the revival of the study of the civil law. Amalphi is also famous for having been the birthplace of Flavio Gioja, supposed by some to have been the inventor of the mariner's compass, but who, it is certain, was only its improver. The place is now resorted to for sea-bathing. (Gibbon's Decline and Fall, cap. 56.)

AMAND-LES-EAUX (ST.), a town of France, dep. du Nord, cap. cant., on the Scarpe, 7½ m. NW. Valenciennes. Pop. 10,210 in 1861. This town is celebrated for its mineral waters, whence its name; it is very ancient, has a communal college, and the ruins of a celebrated abbey, destroyed at the revolution. It is situated in a rich, well-cultivated country, where the flax is produced (*lin ramé*) of which the finest laces are made. These are manufactured in the town, with woollen stockings, cotton coverlets, soap, linseed oil, and chicory. It has also distilleries, tanneries, and a great fair held on the 81st May.

AMAND-MONT-ROND (ST.), a town of France, dep. Cher, cap. arrond., at the confluence of the Marmaude with the Cher, and at one of the extremities of the canal, joining the Cher and Loire. Pop. 8,607 in 1861. It is well built, has a *tribunal de première instance*, a commercial college, and a theatre. It manufactures wooden clogs and leather; and there are forges, cannon foundries, and porcelain manufactures in the neighbourhood. It is the most commercial town of the dep.; the exports consist principally of the produce of the surrounding country, viz. timber, staves, iron, wine, chestnuts, cattle, leather, hemp, wool, and goatskins.

AMANTEA, a sea-port town of South Italy, prov. Cosenza, 14 m. SW. Cosenza. Pop. 4,077 in 1862. It is encircled by walls; has an old castle, 4 parish churches, some convents, and a school for *belles-lettres*. There are hot springs in its vicinity, and its territory has the appearance of a continued olive wood. It is supposed to occupy the site of the ancient *Nipezia*. It was taken by the French in 1806, after an obstinate defence.

AMARANTE, an ancient town of Portugal, prov. Minho, on the Tamega, 35 m. NE. Oporto. Pop. 5,500 in 1858. It is situated in an agreeable

valley, is well built, has a fine bridge, an hospital, an hospicio, two churches, and a Latin school.

AMARUPURA (vulg. *Ummrapura*), a city, and formerly the cap. of the Birman empire, on a peninsula between the Irawadi on the one hand, and a deep and extensive lake on the other, 6 m. NE. Ava; lat. $21^{\circ} 55' N.$, long. $96^{\circ} 7' E.$ In 1800, the pop. was estimated at 175,000; but the seat of government having been transferred to Ava in 1819, it has since rapidly declined, and is now an inconsiderable place. Near the city is a temple, much frequented by devotees, containing the celebrated bronze statue of Guadama, brought from Arracan in 1784.

AMASIEH (an. *Amasia*), an ancient city of Asiatic Turkey, cap. sanjack of same name, in the E. part of Natolia, on the Jekil Ernak; lat. $40^{\circ} 38' N.$, long. $36^{\circ} 26' E.$ The situation is peculiar, being difficult of access, and having a citadel on a sharp-pointed rock, connected with the hills whereon the town stands. Outside the walls are some curious caverns; and in the upper part of the town, are to be seen the ruins of a temple, a fountain, and aqueducts, mentioned by Strabo. Most of the houses are of wood, but many are of stone, and all are covered with tiles. Streets narrow and filthy. The mosque of Sultan Bayazid is a fine edifice, with two lofty minarets of hewn stone. Great quantities of silk and wine are produced in the surrounding country, and some branches of the silk manufacture are carried on in the town, which has a considerable trade. Pop. estimated at 25,000. Strabo, the most celebrated geographer of antiquity, belonged to Amasia, and has left a very minute description of this his native city.

AMASREH, a sea-port town of Asiatic Turkey, Natolia, on the Black Sea; lat. $41^{\circ} 45' 27'' N.$, long. $32^{\circ} 21' E.$ It is built on the declivity of a hill, on a peninsula between two ports; but its proper roadstead is on the E. side of the isthmus, at a short distance from land, in 3 or 4 fathoms. Its commerce is inconsiderable. There are in the town the ruins of a temple of Neptune, and some other antiquities.

AMATRICE, a town of South Italy, prov. Aquila, on a pleasant hill, near the source of the Tronto, 22 m. N. Aquila. Pop. 5,725 in 1861. It has 5 parish churches, 2 *monts-de-piété*, and a manufacture of counterpanes.

AMAXICHI, a sea-port town, cap. Santa Maura, one of the Ionian Islands, near its NE. extremity, on a bay of the narrow strait separating the island from the opposite coast of Albania; lat. (castle) $38^{\circ} 50' 15'' N.$, long. $20^{\circ} 43' E.$ Estim. pop. 7,000. The access to the town by sea is defended on the N. by the strong castle of Santa Maura, dist. about $1\frac{1}{2}$ m., and on the S. by Fort Alexander, on the narrowest part of the strait. The town is meanly built. Owing, probably, to the prevalence of earthquakes, most part of the houses are of wood, and only one story high; but those in the principal street are somewhat superior. It is the residence of a Greek archbishop. Extensive salt marshes, or rather lagoons, lie between the town and the castle of Santa Maura, the communication with the latter being kept up by a causeway supported on low arches. The harbour, though improved by the construction of an extensive mole, is fit only for small craft. In summer, the town, owing to the neighbouring marshes, is unhealthy.

AMAZON, MARANON, or ORELLANA, the principal river of S. America, and perhaps the largest in the world. It is formed by the united waters of the Tunguragua and Ucayale; it being doubtful which of these should be considered as the main stream, though the precedence has gene-

rally been given to the first. The Tunguragua takes its rise from the lake of Llauricocha, in Peru, in $10^{\circ} 30' S.$ lat., within 60 m. of the Pacific Ocean, while the Ucayale is formed by the junction of the Apurimac and Puro, the source of the former being near Arequipa, in about the 16th deg. of S. lat. Both rivers follow at first a northerly course, inclining to the W., the Tunguragua till it reaches Jaen, in about $5\frac{1}{2}^{\circ} S.$ lat. and $78^{\circ} W.$ long., and the Ucayale till it unites with the other at St. Miguel Yarrupa, in about $4\frac{1}{2}^{\circ} S.$ lat., and $72\frac{1}{2}^{\circ} W.$ long. The course of the river is thence generally from W. to E. till it falls into the Atlantic, almost under the equator, in about $51^{\circ} W.$ long. Taking the Apurimac for its source, and following its windings, its course may be stated at above 4,700 m. It is studded with innumerable islands, many of which are from 10 to 15 m. in circ., and some much more. Its mouth, which is 180 m. in width, has the large island of Caviara in its centre, and marking its extreme limit. The rise and fall of the tide is distinctly felt at Obidos, 400 m. inland. At its mouth, two days before and after full moon, the phenomenon of the *bore* occurs in a very formidable shape; the water from the ocean rushing into the river, with a prodigious force and noise, in two, three, and sometimes four successive waves, each presenting a perpendicular front, from 10 to 15 ft. in height. No small vessel can encounter it without certain destruction.

Of the rivers which fall into the Amazon, after the junction of its two great branches, from the N., those most important are, the Napo, Putumayo, Yapura, and Rio Negro, the latter having a course of from 1,400 to 1,500 m. To the S. the principal tributaries are the Yavari, Yutay or Yotan, Yurus, Madeira, Topajos, and Xingu. Of these the Madeira is by far the largest, and would any where, except in America, be reckoned a river of the first magnitude. Its course may be estimated at about 1,800 m.

The Amazon, and its tributaries, afford the greatest extent of inland navigation of any river system in the world. Its amount may be moderately estimated at 50,000 m. The Amazon itself is navigable to the E. part of the Andes, 2,000 m. in a direct line from the sea. The navigation to the Pongo de Manseriche, in about $76\frac{1}{2}^{\circ} W.$ long., is not interrupted by a single cataract or rapid. Its channel is deep; and it may be navigated by vessels of almost any burden, up to the junction of its two great arms. Brazilian steamers of 1000 tons navigate to Nanta in Ecuador, and as the head waters of the river reach nearly to Quito, it has been proposed to bring down produce that way instead of taking it to Guayaquil, which is about 150 m. or nine days' journey. In 1860, the number of passengers conveyed by the Steam Navigation Company was 61,086. During the swell in the rainy season the current is rapid; but at other times it may be stemmed not by steam only, but by the aid of the E. breeze which blows perennially against the current. At Jaen, in $78^{\circ} W.$ long., the level of the stream is only 1,240 feet above that of its estuary at Caviara, so that its descent is not at an average rate of a foot every 2 m., and during the latter part of its course it is much less.

At present the vast and fertile country traversed by the Amazon, and its affluents, is nearly in a state of nature, being mostly covered with immense forests, affording cover to wild beasts, and all descriptions of reptiles. During the period of the inundation, a great extent of the low country, on both sides the river, is laid under water; the rains swelling it to between 40 and 50 feet above its ordinary level. There can, however, be little

doubt that, at some future period, all its immense basin, comprising above 2,400,000 sq. m., will be occupied by civilised nations. The Amazon will then be one of the most important and valuable, as well as extensive channels of communication in the world.

The upper part of the river, as far as the mouth of the Yavare, which forms the boundary line between Brazil and Peru, is called Marañon, thence to the mouth of the Rio Negro it is called Solimões, and from the Negro to its mouth, Amazon. The Marañon attains its greatest height in January, the Solimões in February, the Amazon in the middle of March.

A communication exists between the waters of the Amazon and those of the Orinoco. In fact, Humboldt passed by water from the Rio Negro, the principal N. affluent of the former, into the Casiquari, an affluent of the latter, and thence into the main stream of the Orinoco.

The mouth of the Amazon was discovered in 1500, by Vincent Yanez Pinçon; but very little was known respecting the river, till 1539, when Francis d'Orellana, a Spanish adventurer, having embarked on the Rio Napo, one of its remote tributaries, and following the current was carried down the stream to its embouchure. Orellana having reported that armed women were met with on its banks, it thence obtained its popular name of Amazon, though it is still sometimes called Orellana, from its explorer. The origin of the term Marañon is not certainly known. According to Condamine, it is the name of a Spanish officer, who visited the river previously to Orellana; but this is very doubtful, and the more probable opinion seems to be, that it is derived from an Indian nation of that name, which had inhabited some part of its banks. The Amazon was first accurately described by M. de la Condamine, who having embarked upon it, in 1743, near Jaen, and followed its current to its mouth, gave an interesting account of the expedition, with a map of the river, in his *Voyage de la Rivière des Amazones*, Paris, 1745. See also Humboldt's *Travels*; *Journal of Geographical Society*, ii. p. 650.

AMBAZAC, a town of France, dep. Haute Vienne, cap. cant. 12 m. NNW. Limoges. Pop. 2,925 in 1861.

AMBEER, a town of Hindostan, the ancient cap. of the Jeypoor territory, 5 m. N. by E. Jeypoor; lat. 26° 57' N., long. 75° 40' E. The town, romantically situated on the margin of a lake, is now in ruins. In its vicinity is a fine old fortified palace, and a large castle. The former has a noble hall of audience, and many beautiful apartments.

AMBELAKIA, a town of Turkey in Europe, sanjak Tricala, or Thessaly, on the W. declivity of Mount Ossa, near the Peneus, 15 m. NNE. Larissa. This place was distinguished during the latter part of the last and the first part of the present century, by the industry of its inhabitants, and the skill and success with which they carried on the business of spinning and dyeing cotton-yarn. The townspeople, who were wholly Greeks, formed a sort of independent community, and either defended themselves from the exactions of the Turks, or were neglected by the latter. At first individuals carried on business on their own account, on the principle of free competition; but thinking that their profits would be increased by carrying it on in common, they formed themselves into an association on a joint stock principle. For a while this succeeded perfectly well; but, in the end, the parties quarrelled amongst themselves, and the fruits of their industry were swallowed up in expensive and protracted litigation.

At length the staple trade of the place was totally annihilated by the importation of cheaper yarn from England; the produce of our spinning-mills having not merely superseded the handspun-yarn of Ambelakia in foreign markets, but in those of Turkey itself. The town and surrounding country have since become comparatively poor and depopulated. In the acmé of its prosperity it might have 7,000 inhabitants; the estimate now is 4,000.

AMBERG, a town of Bavaria, circ. Regen, on the Vils, by which it is intersected, 81 m. NNW. Ratisbon. Pop. 12,942 in 1861. It was formerly the capital of the Upper Palatinate; streets wide and clean; and though the houses are mostly of wood, it is pretty well built. It is encircled by a double wall, flanked with numerous towers. Principal public buildings, the electoral, now royal castle, arsenal, mint, salt-warehouse, town-house, and church of St. Martin. It has a lyceum, a gymnasium, a seminary for the education of teachers, some well endowed hospitals, a convent for noble ladies, a public library, theatre, and house of correction. It is an entrepôt for salt, and has manufactures of firearms, tobacco, and earthenware. There are mines of coal and iron, with iron works, forges, and the principal glass works in Bavaria in its vicinity: its territory is also very productive of hops. It is the seat of a tribunal of appeal, a commissariat of police, a president, and a chamber of finance. The French were defeated in the neighbourhood by the Austrians in 1796.

AMBERIEU, a town of France, dep. Ain, cap. cant. Pop. 2,782 in 1861.

AMBERT, a town of France, dep. Puy de Dôme, cap. arrond. on the Dore, 86 m. SE. Clermont. Pop. 7,661 in 1861. The town is well built, but the streets are narrow and crooked, and the houses being principally constructed of granite, from the adjoining mountains, have a gloomy appearance. Ambert, and the arrondissement of which it is the capital, are distinguished by their industry. The town is especially celebrated for its paper for printing and engraving. There are also in the town very extensive manufactures of ribbons, lace, woollen cloths for the marines, called *étamines à pavillon*, serge, linens and pins.

AMBLETEUSE, a small decayed sea-port town of France, dep. Pas de Calais, 6 m. N. Boulogne, on the railway from Calais to Boulogne. Pop. 726 in 1861. It was formerly a sea-port of considerable importance; and both Louis XIV. and Napoleon endeavoured, by improving its harbour, to regain for it some portion of its ancient consequence. But, owing to the accumulation of sand, their efforts have had no permanent influence, and the town is almost deserted. James II. landed here after his abdication of the English throne in 1689.

AMBOISE (an. *Ambacia*), a town and castle of France, dep. Indre et Loire, cap. cant., on the left bank of the Loire, 16 m. E. Tours. Pop. 4,570 in 1861. The castle of Amboise, celebrated in French history, occupies the summit of a rock, about 90 feet in height. The town lies principally between the bottom of the castle rock and the river; but it has suburbs on an island in the river, and on its right bank. The castle, which is of vast extent, was commenced under Hugh Capet, and finished under Charles VII.; it was a favourite residence of Louis XI., and in it Charles VIII. was born in 1470, and expired in 1498. It is also famous in French history as the birthplace of the conspiracy, *dite d'Amboise*, against the Guisees, concerted in 1560. It suffered much during the religious wars, and was partly demolished during

the revolutionary frenzy. The remaining portion is now converted into a dépôt for the flints for the use of the French army, brought from the quarry of Meusne, near St. Aignan. The views from its towers and battlements are superb.

AMBOOR, a town of Hindoestan, in the Carnatic, district S. Arcot, 108 m. WSW. Madras; lat. $12^{\circ} 50' N.$, long. $78^{\circ} 46' E.$ It is neat and regularly built: the inhabitants, who are industrious, prepare a considerable quantity of castor oil for exportation. To the left of the town is a lofty isolated mountain, that was formerly surmounted by an all but impregnable fort; but its upper works have been destroyed since it came into the possession of the British, and the tower is used as a place of confinement for malefactors.

AMBOYNA (*Ambus*, Malay), an island of the E. Archipelago, in its third or E. division (Crawford), belonging to the Dutch. It lies in $8^{\circ} 40' S.$ lat., between 128° and $129^{\circ} E.$ long., SW. of Ceram; is 82 m. in length, and 10 in breadth; area 424 sq. m. Estimated population 188,000, mostly Malays, with some Chinese, besides the Dutch residents. The shape of the island is irregular, being indented by a long bay (Binnen), which divides it into two very unequal portions, connected by a narrow isthmus. Surface mountainous, and the whole district volcanic. It is watered by numerous rivulets, and overgrown everywhere by trees and underwood, interspersed with clove plantations; its soil, a rich red loam, is of a darker colour in the valleys, and sometimes mixed with sand; climate healthy, the average heat of the year 82° Fahr., the lowest temperature $70^{\circ} F.$ The monsoons occur regularly, but their effects are quite the reverse of those experienced in Borneo and the W. division of this archipelago; the E. monsoon bringing rains and tempests, and the W. dry weather. The Dutch appropriated this island to the culture of the clove, for the production of which it is especially calculated; and to secure to it a monopoly of this valuable product, barbarously compel the destruction of the trees in the other islands subject to their power. The clove (*gomode*, Tidor lang.) thrives best in a dark loamy soil, but not very near the sea, on hills, on sandy or hard clay soil, or on sedgy grounds, and requires much care in its culture. The plant resembles a large pear-tree, from 20 to 40 feet in height. In the Moluccas it bears at 7 or 8 years, in Amboyna, not till 10 or 12 years old; about one-third of the trees are infertile, the rest may continue to bear fruit for 70 years. The crops are gathered in Oct. and Nov.; they are very unequal in different years, but the produce of each tree may average from 2 or 3 to 5 lb.; the total annual produce is said formerly to have been 650,000 lbs. (Hamilton.) Sago forms the chief nourishment of the inhabitants, and very superior indigo, but inferior coffee, are also grown. Sago trees are 7 years in arriving at full growth, and last about 30; but they are generally cut down when about 20 years of age. When in full vigour, they yield from 42 to 46 lbs. of sago a year. The wild animals of Amboyna are deer and wild hogs: there are no beasts of prey, but a multitude of birds and servants. Buffaloes, cows, sheep, goats, and horses, were brought thither by the Portuguese, but cattle are rare. The inhabitants are of four distinct races, viz.:—1. Hooras, the aborigines, who are in a savage state and live in the forests, whither they were driven by 2. Malays, who compose the bulk of the population: 3. Chinese, who are the principal merchants: 4. Europeans, mostly Dutch. The Malays are indolent, effeminate, and fond of imitating the Dutch; they are expert fishers, in canoes from 10

to 20 feet long; in war they use *korokores*, 80 to 100 feet in length, and capable of containing 80 men. Their houses are of wood, roofed with palm-leaves, and are mostly of but one story, on account of the prevalence of earthquakes. The prevailing religion is Mohammedanism, introd. A. D. 1515; but some of the Amboynese are Christians, and bear Portuguese names. The government is dependent on that of Batavia; its seat is at Fort Victoria: the public revenues are derived from a monopoly of arrack, custom-house and port duties, taxes on merchandise, and licences to keep an inn, and kill pigs. The exports consist of cloves, and other natural produce; the imports chiefly opium, and a few European and Indian goods.

History.—Amboyna was first discovered by the Portuguese in 1515. It was taken by the Dutch in 1607, and by the English in 1615. The latter, who were soon after expelled by the Dutch, retained a factory in the island till 1622. The destruction of this establishment by the Dutch, and the cruelties inflicted on the unhappy persons found in it, afforded a theme for lengthened negotiations, and for much declamatory invective. At length, under the vigorous administration of Cromwell, the Dutch were compelled to make some compensation to the descendants of those who suffered in the 'Amboyna massacre.' In 1796, the island was captured by the British, who restored it at the peace of Amiens. They recaptured it 1810, and held it till 1814, when it reverted once more to the Dutch.

AMBOYNA. The principal town in the above island, and the second in importance belonging to the Dutch in the E. Archipelago, on the SE. side of the bay of Binnen, near Fort Victoria, in $8^{\circ} 40' S.$ lat., and $128^{\circ} 15' E.$ long. Pop. 8966 in 1861. It is regularly built; the streets, though not paved, are broad, and intersected by many rivulets; the houses, excepting the town-house, which has two stories, are all of only one story, constructed of wood and roofed with palm leaves. A long esplanade, reaching as far as the fort, is bounded by a handsome range of houses, and a double row of nutmeg trees; there are two Christian churches, an hospital, a fine garden and menagerie, and several good bazaars and markets. Fort Victoria is an irregular hexagon, surrounded by a ditch, but as it is entirely commanded by two neighbouring heights, its best defence is in the difficulty of anchorage in the contiguous bay.

AMBRIERES, a town of France, dep. Mayenne, cap. cant., 7 m. N. Mayenne. Pop. 2,720 in 1861.

AMBROIX (ST.), a town of France, dep. Gard, cap. cant., 11 m. NNE. Allais. Pop. 4,060 in 1861. It manufactures coarse silk stockings, and has tanneries and nail works.

AMELIA (an. *Ameria*), a city of central Italy, prov. Perugia, deleg. Spoleto, 28 m. SW. Spoleto. Pop. 7,024 in 1861. It stands on a small hill, is the seat of a bishopric founded in 1844, and has a cathedral, three churches, and some convents.

Ameria was one of the most considerable and ancient cities of Umbria. The famous comedian, Sextus Rocius, was a native of Ameria, which is frequently referred to by Cicero in his speech in defence of Rocius. It is said to have been founded 1045 years B.C., and became a colony under Augustus.

AMELIA, an island on the NE. coast of Florida, from which it is separated by a narrow channel, 40 m. N. St. Augustine, between St. Mary's and Nassau rivers. It is 20 m. in length by 2 in breadth, is fertile, and its chief town, Fernandina, has a good harbour.

AMERICA, or the New World of the W. hemisphere, one of the great divisions of the globe, surpassing all the others in magnitude, with the exception of Asia, to which, however, it is but little inferior. This vast continent stretches N. and S. a distance of above 9,000 m., or from about the 72nd degree of N. lat. to Cape Horn, in about 56 S. lat. It is very irregularly shaped, being divided by the Gulph of Mexico and the Caribbean Sea into the two enormous peninsulas of N. and S. America, united by the narrow Isthmus of Darien, or Panama. Where broadest, N. America, excluding Greenland, is not less than 2,500 m. across, and S. America not less than 3,200 m. The best estimates that have been formed of the area of America vary from 14,790,000 to 15,840,000 Eng. sq. m., while some authorities give a still higher figure. Probably, the following statement will approach the mean, based on the most reliable statistics:—

	Eng. sq. m.
N. America	7,400,000
S. America	6,500,000
Islands	150,000
Greenland and the Islands connected with it N. of Hudson's Straits	900,000
Total	14,950,000

The continent of America lies between the Atlantic and Pacific oceans, the former separating it from Europe and Africa, and the latter from Asia and Australia. All the distinguishing features of the American continent seem to be formed on the most gigantic scale. The chain of the Andes, which runs from one end of S. America to the other, and is prolonged under different names through the whole extent of N. America, is, in point of length, unequalled by any mountain chain in the old world; and is far superior, in respect of altitude, to the Alps and every other mountain system with which we are acquainted, the Himalaya only excepted. The plains, rivers, bays, lakes, cataracts, and forests of America are of unrivalled extent and grandeur. Her mineral riches seem also to be superior to those of every other continent; and she possesses every variety of climate, from the extreme heat of the torrid zone to the eternal winter of the arctic circle. It is singular, however, that while inanimate and vegetable nature are developed on so grand a scale in the new world, the animal kingdom should be comparatively deficient. The native American is probably inferior even to the negro. Of the lower animals, neither the elephant, camel, nor lion is found in America; and it was originally destitute of the horse, the ox, and the sheep, all of which were carried thither by Spanish, British, and other European settlers.

N. America is more indented than any other of the great divisions of the globe, with immense gulphs and arms of the sea. One of the principal of these, in the NE. part of the continent, consists of what Balbi has not unsightly called the sea of the Esquimaux, from its coasts being everywhere occupied with tribes belonging to that peculiar race. It consists of two great divisions, Davis's Straits and Baffin's Bay, separating Greenland from the rest of the continent; and Hudson's Bay, lying more to the S. and W., but connected with the former by numerous channels, some of which have only been recently discovered. The navigation of these seas and inlets, even at the most favourable seasons, is extremely difficult, from their being constantly encumbered with ice; and it is only during a short period of the year that it can be attempted. The next great inlet of the sea on the American coast is the Gulph of St. Lawrence, so called from the great river of that

name which falls into its SW. extremity. Passing over the numerous inlets and noble bays on the coast of the United States, we come to the Gulph of Mexico and the Caribbean Sea. This vast mediterranean is separated from the Atlantic by the peninsula of Florida, and the Greater or Lesser Antilles, or the West Indian islands. The latter are, as it were, a continuation of Florida; and are, it is probable, the only remaining points of what was once a broad belt of land, which has been broken to pieces and partly submerged in some of those tremendous convulsions to which the earth has been subject. But, however this may be, this great inland sea is divided into two portions by the peninsula of Yucatan and Cape St. Antonio, at the W. extremity of the island of Cuba, which approach within a comparatively short distance of each other; that to the N. being called the Gulph of Mexico, and that to the S. the Caribbean Sea, or the sea of the Antilles. The Isthmus of Panama is at the extreme S. limit of the latter, in about the 8th degree of N. latitude. It is believed that it would be by no means difficult to cut a canal across this isthmus, and consequently to unite the Atlantic and Pacific oceans. The Gulph of California, separating the peninsula of that name from the main land, is the most important inlet of the sea on the W. coast of North America.

S. America bears a striking resemblance in the form of its coasts to Africa. It is much more compact than N. America, and is comparatively little indented by arms of the sea. The great rivers, Amazon, La Plata, Para, Orinoco, &c., may, however, be looked upon as a species of inland seas; and are, in some respects, more serviceable than the latter. The W. coast of America, from the proximity of the Andes, has but few gulphs; and is, in great part, all but destitute of harbours. The S. extremity of S. America, or the country of Tierra del Fuego, is properly an archipelago, being separated from the continent by the narrow and winding strait of Magellan, or Magalhaens.

Mountains.—Humboldt has shown that all the high elevations of the New World belong to that great chain which, under different denominations, extends from one of its extremities to the other, along its western coast, over a space of no less than 10,000 m. The American mountains may, however, be divided into *eight* systems, or principal groups, three of which belong to S., and three to N. America; and one each to the West Indian and Arctic archipelagos.

1st. Of these systems, that of the Andes, or Peruvian system, from the highest mountains being, with one exception, in the country known by the name of Peru, is the most gigantic. This vast chain of mountains commences at Cape Horn, in about the 56th deg. of S. lat., and following pretty closely the line of the W. coast of the continent, to which it forms as it were a huge bulwark, stretches N. to the Bay of Panama, in about the 9th deg. of N. lat. But at Popayan, in about 24° N. lat., the chain is divided into three great ridges, of which the most westerly takes the direction above mentioned, while that farthest to the E. follows a NE. direction, terminating a little to the E. of lake Matcacaybo. The name *cordillera*, sometimes given to the entire chain, belongs properly only to the highest ridge. In parts the chain consists of only one ridge, and in others of 2 or 3, enclosing very extensive Alpine valleys, many thousand feet above the level of the sea. Next to the Himalaya, the Andes has the highest elevation of any mountain system; its mean height may be taken at from 10,000 to 12,000 ft. Chimborazo, near Quito, 21,424 ft. above the sea, was formerly supposed to be its culminating point;

but it is surpassed in altitude by Aconcagua, in the Chilean Andes, lat. $32\frac{1}{2}^{\circ}$ S., long. 70° W., which certainly rises to above 22,290 ft., or to more than 6,490 ft. above the height of Mont Blanc. (See *ANDES*.) 2d. The system of La Parime, or Guyana, embraces the mountains scattered over the immense island formed by the Orinoco, Cassiquari, Rio Negro, and Amazon. It consists of an irregular group of mountains, separated from each other by plains, savannahs, and immense forests. The Sierra de Parime may be regarded as its principal chain. The Peak of Duida, 8,280 ft. in height, is the culminating point of the chain and of the whole system. 3d. The Brazilian system, embracing the mountains that lie between the Amazon, Paraguay, and Rio de la Plata. The Sierra de Espinhazo is its most elevated chain. It traverses, under different denominations, the provinces of Bahia, Minas-Geraes, Rio de Janeiro, San Paulo, and the northern extremity of the province of San Pedro. Its culminating points are Itambe and the Sierra da Piedade, nearly 6,000 ft. high, in the province of Minas-Geraes. 4th. In N. America, the principal mountain system is that of the Mexican Alps and Rocky Mountains, which may be regarded as a continuation of the Andes. In Mexico, it is divided into three distinct ridges; within which, between the parallels of 19° and 24° N. lat., are immense plateaus elevated to the height of between 6,000 and 9,000 ft. The central cordillera of Mexico stretches N. 10° W. from the 25th to the 38th deg. lat., separating the waters of the Rio del Norte, flowing SE. from those of the Colorado, flowing SW. The highest peaks in the ridge in Mexico are the volcanoes of Popocatepetl, 17,717 ft., and Orizaba, 17,874 ft. From about the 38th deg. the ridge, which then begins to be called the Rocky Mountains, stretches N. 28° W., till it terminates near the mouth of the Mackenzie River, on the Arctic Sea, in about the 69th deg. of lat. and 138th deg. of W. long. Some peaks in this chain, between 62° and 68° , are said to be nearly 16,000 ft. above the level of the sea; and others, between 87° and 89° , have been ascertained to be from 10,000 to 12,000 ft. in height. 5th. Parallel to the Rocky Mountains, and at no great distance from the sea, a chain of mountains runs N. from the peninsula of California till it is lost in Russian America. This chain, which has been called by Humboldt the Californian Maritime Alps, increases in altitude as it gets further N. Mount Hood, near the 45th deg., on the S. side of the Columbia or Oregon river, is said to be about 16,000 ft. high; and Mount St. Helen's, about a degree further N. on the N. side of the Columbia, has an elevation of 14,000 ft. Mount Fairweather, in the 59th deg., is also 14,000 ft. high; and Mount St. Elias, the loftiest in the chain, attains to an elevation of nearly 17,000 ft. The last two are volcanoes. Between the Rocky Mountains and the Maritime Alps is an extensive prairie tract, 700 m. in length, by from 100 to 200 m. in breadth. The Rocky Mountains and the Maritime Alps are connected by a ridge in about the 42d deg. lat., dividing the waters which flow N. to the Columbia from those which flow S. to the Colorado. 6th. The mountains E. of the Mississippi do not at all approach the Rocky Mountains in magnitude. They are included in what is called the Alleghany or Appalachian system, extending in a N.E. by N. direction from Alabama, on the N. confines of Georgia, to the banks of the St. Lawrence, being about 1,200 m. in length, with a mean breadth of 100 m. The White Mountains of New Hampshire, 7,800 feet above the level of the sea, are the highest in this range, which is crossed by the tidal waters of the Hudson river.

The immense valley of the Mississippi lies between the Rocky and the Alleghany chains. 7th. Balti proposes to embrace, under the denomination of Arctic system, all the mountains that are already, or that may hereafter be, discovered within the Arctic archipelago. The culminating points of that system, in so far as they are at present known, are the Corn du Cerf, in Greenland, the height of which has been much exaggerated, but which is probably above 8,000 ft., and the Aerafi Taekull, in Iceland, 6,649 ft. 8th. The system of the Antilles embraces the mountains in the archipelago of that name. Its culminating points are, the Anton-Sepa, in Hayti, nearly 9,000 ft. in height; and the Sierra de Cobre, in Cuba, the most elevated summits of which attain about the same height.

Plateaus.—America has a great variety of plateaus, some remarkable for their prodigious elevation, and others for their immense extent. Under the former are included the plateau of Titicaca, divided between Bolivia and Peru, comprising an area of about 18,000 sq. m., with a mean elevation of above 18,000 ft. The populous and well cultivated plateau of Quito is elevated about 9,600 ft.; and the extensive plateau or table-land of Anahuac, in Mexico, from 6,000 to 9,000 ft. Among the latter, or those principally remarkable for their extent, may be mentioned the central plateau of S. America, embracing the vast province of Matto Grosso, with parts of Goyaz and San Paulo in Brazil, the whole of Paraguay, Chaco in the confederation of the Rio de la Plata, and a part of the lands of the Chiquitos and Moxes in Bolivia. Its elevation varies from about 750 to 1280 feet.

Volcanoes.—America has a great number of volcanoes, and some of the most elevated volcanic mountains in the world. The states of Ecuador and of Cauca in Columbia, the states of Nicaragua, San Salvador, and Guatemala in central America, Chili, Russian America, and Iceland in Danish America, contain a great number of volcanoes. The most remarkable volcanic mountains are, Cotopaxi, Sanguay, and Pichincha in the Columbian department of Ecuador; Pasto, Sotara, and Purace in that of Cauca; Guagua-Pitina, or the volcano of Arequipa, and Sehama in Peru; the volcanoes of Copiapo, Chilan, Antoco, and Peteroa in Chili; those of Socomusco, Guatemala or Fuego, Agua, Pacaya, San Salvador, Granada, and Telica, near St. Leon, of Nicaragua, in central America; Popocatepetl, or the volcano of Puebla, Citlatepetl, or the volcano of Orizaba, the volcano of Colima, and that of Xorullo, in the Mexican confederation; St. Elias and Fairweather, in the Californian Alps; the two volcanoes of the peninsula of Alaska, and those of the Aleutian islands; with Hecla, and others in Iceland.

Plains.—In no other part of the world are the plains so vast. The immense space from the outlet of the Mackenzie River to the delta of the Mississippi, and between the central chain of the Mexican system and Rocky Mountains, and the Alleghany, forms the largest plain, not of America only, but of the world: it embraces the basins of the Mississippi, the St. Lawrence, Churchill or Nelson, almost the whole basin of the Missouri, nearly the whole basins of the Saskatchewan and Mackenzie River, and the entire basin of the Copernice River. Four-fifths of that portion of this vast plain which lies beyond the 50th deg. of lat., is a bleak and barren waste, overspread with innumerable lakes, and bearing a striking resemblance to N. Asia; but its more southerly portion, or that lying W. of the Alleghany chain, and N. from the Gulf of Mexico, differs widely in character from the other, being well wooded and fertile on the E.

side, bare but not infertile in the middle, and becoming almost a desert in the extreme W. The second great plain of the New Continent is that of the Amazon: it embraces the whole central part of S. America, comprising more than half Brazil, with south-west Columbia, the eastern part of the republic of Peru, and the northern part of Bolivia: its limits are nearly identical with those of the middle and lower parts of the immense basin of the Amazon and Tocantín. The plain of the Río de la Plata extends between the Andes and their principal branches, and the mountains of Brazil, to the Atlantic Ocean and the Straits of Magellan. It embraces the south-west part of Brazil, Paraguay, the country of the Chiquitos, Chaco, with the greater part of the confederation of the Río de la Plata, the state of Uruguay, and Patagonia. A large portion of it is known by the name of the *Pampas* of Buenos Ayres, or Río de la Plata. The plain of the Orinoco, embracing the Llanos of New Granada and Venezuela in Columbia, extends from Caqueta to the mouth of the Orinoco, along the Guayiare, Meta, and lower Orinoco. In some of the flat parts of America large tracts of territory are met with, which, in respect of aridity of soil, and of the sand by which they are covered, may be compared to the deserts of Asia and Africa. The most remarkable and most extensive of these tracts are the desert of Pernambuco, occupying a great part of the NE. plateau of Brazil; the desert of Atacama, extending with some interruptions along the coast of the Pacific from Tarapaca in Peru to Copiapo in Chili; and the desert of Nuttall, at the E. foot of the Rocky Mountains, between the Upper Arkansas and Paduka, forming part of the central plain of North America.

The Rivers of America are on a much larger scale than those of any other portion of the globe, affording facilities of internal communication of vast importance, and quite unequalled any where else. The principal are the Amazon, Mississippi, Plata, St. Lawrence, and Orinoco. The Amazon flows E. through the broadest part of S. America, falling into the Atlantic Ocean under the equator. Its entire course is estimated at about 4,700 m., and it has several tributaries larger than the Volga or the Danube. Uninterrupted by either rocks or shallows, it is navigable for vessels of considerable burden to the E. foot of the Andes, a distance, in a direct line, of above 2,000 m. from the sea; and though civilisation has as yet made little progress in the vast and fertile regions through which it flows, there can be no doubt that it is destined to become as it were a great highway for many powerful nations, and to have its banks thickly set with populous towns and emporiums.

The Mississippi, taken in connexion with the Missouri, the largest and most important stream, flows from N. to S., falling into the Gulf of Mexico, about 100 m. below New Orleans. Its course, including windings, exceeds 4,200 m.; many of its tributaries, as the Arkansas, Red River, Ohio, &c., are of great magnitude; and it drains one of the largest and finest basins in the world. It is navigable for about 1,700 m. in a direct line from its mouth; and though civilisation has only begun to strike its roots and scatter its seeds in the wide regions through which it flows, it is already a well frequented channel of communication. But the boldest flights of imagination can hardly figure what the Mississippi will be, when the rich and fruitful countries on its banks, and those of its affluents, are all fully peopled, and making use of its waters to send abroad their surplus products, and to import those of other countries and climates.

The Plata, which runs S. with a slight inclination to the E., is the grand channel of communication to a very large portion of S. America. Its course may be estimated at about 2,500 m.; and its basin is inferior only to that of the Amazon or the Mississippi.

The St. Lawrence, with its connected lakes, or rather great inland seas, is the grand outlet of the largest freshwater system in the world. Including the lakes, its course exceeds 2,000 m. It is remarkable for the equality of its current, which is nearly uniform throughout the year.

The Orinoco has a course of about 1800 m., and carries to the sea an immense body of water. There is a water communication between one of its affluents, the Cassiquiare, and the Río Negro, an affluent of the Amazon.

Owing to the circumstance of the Andes, and of their prolongation in N. America, being generally within a comparatively short distance of the W. coast, there is not, in most parts, room in the intervening space for the formation of any very great river. Hence, notwithstanding the prodigious length of the W. coast, it only receives two large rivers, and these not of the first class; the Río Colorado, falling into the bottom of the Gulf of California, and the Columbia or Oregon. Their course may be estimated at about 1,100 m. each.

The Mackenzie is the only great river flowing into the Arctic sea. It has a NNW. course; it is connected by a series of lakes and tributary streams with lake Superior, and consequently with the St. Lawrence.

Lakes.—No part of the world has so many lakes as N. America, especially that portion between 42° and 67° lat., which might be justly called the lake region. It presents not only the greatest masses of fresh water on the surface of the globe, but so many smaller lakes and morasses, that their enumeration is almost impossible. These lakes form a most important feature in the physical geography of the new world. In the rainy season, several of them overflow their banks; and temporary communications are then established between rivers whose embouchures are frequently at immense distances from each other. Some of these communications are permanent; as, for instance, that of the Mississippi or Churchill with the Mackenzie River. The great lakes of N. America are, Lake Superior, Michigan, Huron, St. Clair, Erie, and Ontario. These, which are all connected together, discharge their superfluous waters by the St. Lawrence, and form that vast reservoir of fresh water, sometimes called the sea of Canada. (See the titles for a full description of these lakes.) The next in size and importance are Lakes Winnipeg, Athabasco, Great Slave Lake, and Great Bear Lake, stretching NNW. from Lake Superior to near the mouth of the Mackenzie River, and forming as it were a continuation of the Canadian lakes. There are some considerable lakes in the Mexican states; and the comparatively small lakes of Tezeaco, Xochimilco, &c., in the valley of Mexico, are remarkable for their elevated situation, their vicinity to the capital, and the superb works undertaken to prevent the damage caused by their frequent overflowing. Lake Nicaragua, in central America, is remarkable for its size, the beauty of its scenery, its volcanoes, and from its forming the basis of the works projected for uniting the Atlantic and Pacific oceans. The limited size of the principal lakes of S. America, strikingly contrasts with the dimensions of those of N. America. The lake of Titicaca, the largest and most celebrated of the S. American lakes, is situated near the NW. frontier of Bolivia, or Upper Peru, in an Alpine valley surrounded by ridges of the Andes. It covers an area estimated

at 2,225 geog. sq. m., its length being 120 m. and breadth 88 m., and it is elevated 12,850 feet above the level of the sea. Manco Capac made his first appearance on the banks of this lake. The basins of the Rio Colorado, or Mendoza, and Rio Negro, present several very extensive lakes; but these are really rather vast morasses, than lakes properly so called.

Islands.—A multitude of islands belong to America. We shall briefly notice the principal, in the order of the seas in which they are situated. In the Atlantic Ocean are, the archipelago of St. Lawrence or of Newfoundland, at the mouth of the Gulf of St. Lawrence: its principal islands are Newfoundland, Anticosti, Prince Edward's Island, and Cape Breton. The great Columbian archipelago, or Antilles, commonly called the West Indies, comprises a great number of islands and secondary groups, lying between the peninsula of Florida and the delta of the Orinoco. Its chief islands are, Cuba, Hayti, or St. Domingo, Jamaica, and Porto-Rico, called the greater Antilles; St. Cruz, Antigua, Guadeloupe, Martinico, St. Lucia, Barbadoes, St. Vincent, Tobago, Trinidad, and several others, called the smaller Antilles. The Luccayos, or Bahama Islands, a vast secondary group, are situated to the N. of Cuba. Towards the southern extremity of the New Continent, are the Falkland or Malouine Islands, which have no fixed inhabitants; in the southern ocean is the archipelago of Magellan and Tierra del Fuego, the most southerly inhabited part of the world. By its position, at the extremity of America, it belongs as much to the ocean, to which we have assigned it, as to either the Atlantic or Pacific Ocean.

The Antarctic archipelago, or Antarctic lands, under which denomination we include all the islands situated beyond 56° S. lat., next claims attention. The greater part of these islands have been recently discovered; they are all uninhabited, are mostly covered with ice, and are important only to whale and seal fishers. The most remarkable islands and groups are, the island of St. Peter, called by Cook, S. Georgia; the archipelago of Sandwich, the Orkneys, S. Shetland, Trinity Island, the small islands of Alexander I. and Peter I. The Pacific Ocean has also a multitude of islands, lying in groups, of which we can only notice the following: the archipelago of Madre de Dios, on the W. coast of Patagonia; the Campana and Madre de Dios are the largest of these islands: the archipelago of Chiloe, situated to the S. of Chili, to which it belongs, and of which Chiloe Island is the largest: the archipelago of Galapagos, situated under the equator, about 500 m. W. from the coast of Columbia, but which has no stationary inhabitants: the archipelago of Quadra and Vancouver, comprising a great number of islands, and that of King George III., on the NW. coast of N. America, with the Aleutian archipelago in Russian America. In Behring's Sea, are the group of Pribylof and Noumivok, belonging to Russia. The Arctic Ocean presents a vast number of islands, the majority of which, previously to the late voyage of discovery, were regarded as parts of the American continent. Balbi proposes to give to these islands the general denomination of Arctic lands or Arctic archipelago, and to subdivide them as follows: E. or Danish Arctic lands, comprising the great group of Greenland and Iceland, belonging to Denmark, and Jan Mayen's Island, without stationary inhabitants; the W. or English Arctic lands, extending to the W. and N. of Baffin's and Hudson's bays, the principal groups of which are, N. Devon, N. Georgia, with the islands Cornwallis, Melville, &c.; and the archipelago of Baffin—

Parry, with the islands Cockburn, Southampton, New Galloway, &c.

The Climate of America is nearly as celebrated for the predominance of cold, as that of Africa for the predominance of heat. With the exception of the limited space along its W. shore, between the Andes in the S. and the Maritime Alps in the N., the temperature of the New World, in the same latitude, is everywhere inferior to that of the Old. Countries which, from their geographical position, we should suppose would be mild and temperate, are exposed to long and severe winters, during which they are wholly covered with snow; and in point of fact, the entire continent of N. America above the 50th degree of lat. is all but uninhabitable. Even in the 45th parallel, on the N. side of the Canadian lakes, frost is continuous for more than six months. Occasional frosts occur as low down the Atlantic coast as the confines of Florida, near the 30th deg. of lat., in the parallel of Morocco, Cairo, and Suez. This predominance of cold is no doubt ascribable to a great variety of causes; among the most prominent of which may be placed the extraordinary elevation of the soil. Not only is the continent traversed from one extremity to the other by immense chains of mountains covered with perpetual snow, but in many parts, as in Mexico and Columbia, very extensive plains are found at an elevation of from 6,000 to 10,000 feet above the level of the sea! Thus the plain of Quito, immediately under the equator, has an elevation of above 9,600 feet, and its mean temperature is said not to exceed 58° Fahr. In some parts, where the plateaus rise rapidly, there is often, within a few leagues, an extraordinary change of temperature. At Vera Cruz and Guayaquil, for example, on the borders of the plains of Mexico and Quito, and nearly on a level with the sea, the heat is often quite oppressive. These different climates have different vegetable productions. 'Hence the traveller journeying down the deep descent of one of these magnificent ravines (leading from the plateau of Mexico), through forests of birches, oaks, and pines, finds himself suddenly on the level shores of the Rio Alvarado, surrounded by palms, and has an opportunity of seeing the animal products of the N. and S., of the Alpine regions and tropics, nay of the E. and W. hemispheres mingled together. Wolves of northern aspect dwelling in the vicinity of monkeys; humming birds returning periodically from the borders of the frozen zone, with the N. bunting and soft-feathered titmice, to nestle near parrots; and our common European whistling ducks and teal, swimming in lakes which swarm with sirens and Brazilian parrots and boatbills.' (See Richardson's Zoology of N. America, in the Sixth Report of the British Association, p. 185.)

In addition to its vast mountain chains, and the prodigious elevation of many of its plateaus, the lower temperature of America may be partly ascribed to the great indentation of the sea between N. and S. America, and the want of extensive sandy deserts in the tropical regions, easily impregnated with heat. The place of the latter in the African continent is here occupied by vast forests, traversed in all directions by immense rivers. The forests, however, are not confined to the tropical regions; they extend over the greater portion of the continent, powerfully diminishing the influence of the solar rays upon the earth, and greatly increasing its moisture. A strong and abundant vegetation, the result of its greater humidity, is, in fact, the distinguishing characteristic of the New World.

But a very small portion of North America is within the torrid zone; it reaches far within

the Arctic circle, where it also attains to a great breadth. The NW. wind prevails during winter. This wind, sweeping over a desolate country, over-spread with marshes, forests, frozen lakes, and mountains, buried under eternal snows, contracts an intense degree of cold, and in its progress southward, passing over a wilderness, where the ground is shaded by forests from the solar rays, its original character is in no respect changed. It slowly yields to the dominion of the climate, and retains its temperature long after it has penetrated into the regions of heat. Throughout N. America the N. wind is accordingly felt to be keen and piercing. It increases the rigour of the seasons in the more northerly regions, and extends the influence of winter far into those latitudes which, in the other hemisphere, are blessed with perpetual spring. The countries lying within the tropics are exposed to the inroads of the northern blasts; and the great heats felt at Vera Cruz and Havannah are often suddenly reduced by strata of cold air brought by the N. winds from Hudson's Bay. These winds blow from October to March, frequently bursting forth in tremendous hurricanes, and cooling the air to such a degree, that, at Havannah, the centigrade thermometer falls to 0, or 32° Fahr., and at Vera Cruz it falls to 16°, or to 60° Fahr. At Zacatecas, within the tropic of Cancer, it frequently froze hard in the winter of 1825; and in the city of Mexico the thermometer has been known, though rarely, from the same cause, to fall below the freezing point. To the prevalence of these N. winds, therefore, combined with the extraordinary elevation of the ground, and the uncultivated state of the country, overspread with vast forests, the greater cold of N. America seems chiefly ascribable. In S. America nearly the same causes operate. The country is even more desolate; the climate is more inclined to moisture; and liable, beyond the 40th parallel, to dreadful tempests; while immense mountain ranges, rising far above the limit of perpetual snow, aid these effects, and greatly increase the rigour of the seasons. To these causes may be added the form of the American continent, which being greatly contracted in breadth as it approaches the S., is, in consequence, exposed on every side, except towards the N., to the surrounding oceanic winds. To the S. of Cape Horn is the great Antarctic Ocean, where cold prevails even to a much greater degree than in the N., so that the winds coming from those inhospitable seas bring to the American continent all the unmitigated rigour of the polar regions. The Andes and the Maritime Alps protect the strip of territory between them and the Pacific Ocean from the freezing influence of the NW. wind; and to this its greater mildness is partly at least, if not wholly, owing.

Minerals.—The mineral riches of America are probably superior to those of any of the other great divisions of the globe. The discovery of the mines of Mexico and Peru effected an entire revolution in the value of the precious metals; and another revolution, in the same sense, followed the discovery of the mines of California, of recent date. The annual produce of the American mines, at the commencement of the present century, was estimated by M. Humboldt at 17,291 kilogs. of gold, and 795,581 kilogs. of silver, of a total value of 9,248,750*l*. This produce continued slightly to increase down to 1810, when it was estimated by Mr. Jacob, author of an Inquiry into the Consumption of the Precious Metals, at 9,918,000*l*. But the revolutionary struggles which began in the last-mentioned year to agitate Mexico, Peru, and the rest of S. America, speedily occasioned the abandonment of some of the most productive

mines, and an extraordinary falling off in the supply of the precious metals. According to Jacob their average annual produce in America, from 1810 to 1829, did not exceed 4,036,000*l*. a year, or less than half its amount at the commencement of the century. (Jacob, ii. 267.) Latterly, however, the supplies of bullion from Mexico, and still more from Chili and Peru, appear again to be on the increase. And to the supplies from Mexico and S. America we have now to add those from California and Columbia. The extraordinary prosperity of the former region, consequent on the discovery and energetic working of its mineral treasures, followed as it was a few years later by the Australian discoveries, and on a smaller scale by the discoveries in Columbia, has quite thrown into the shade the more ancient gold fields of South America and Mexico. The value of gold exported from San Francisco in 1857 was estimated at 14,000,000*l*., and the entire yield of gold to 1st July, 1862, was 186,000,000*l*. Gold was discovered in 1856 in Columbia, and in 1861 the total yield was estimated at 1,527,975*l*. To these must be added the produce of the silver mines of the new territory (now state) of the United States, Nevada, of whose enormous richness the most marvellous reports have recently reached us. There has already been a large immigration into the new territory, but the working of the mines and the knowledge of their immense fertility has been comparatively recent. Besides gold and silver, most other metals are found in less or greater abundance in America. Chili and Cuba have some of the richest copper mines in the world; lead is found in the greatest plenty in different parts of the U. States, particularly at Galena, Dubuque, and other points on the Upper Mississippi, in Mexico; and in California, Columbia, and Nevada, lead, antimony, mercury, and in some places diamonds are found. Diamonds are also found extensively in Brazil, which till late years was the principal source of supply for the world. Iron is extremely abundant in the U. States, and in many other parts of the continent; salt also is very widely diffused; and coal, including anthracite, is found in vast and indeed all but inexhaustible deposits in different parts of the U. States, in British America, and in Chili.

Vegetation.—Stretching, as America does, from the eternal snows of the Arctic to those of the Antarctic circle, and possessing soils of every elevation and quality, her vegetable products are necessarily of the most diversified description. Owing to the prevalent humidity and coolness of the climate, and the richness of the soil, her forests and pastures are unrivalled for extent, luxuriance, and magnificence. The forests consist generally of very heavy timber, including many species of pines and larches unknown in Europe, with an endless variety of oaks, maples, cypresses, tulip trees, mahogany trees, logwood, Brazil-wood, &c. &c. The Old World is indebted to the New for some of its most useful and widely diffused vegetable productions. Potatoes, though probably not introduced into Europe for more than a century after the discovery of America, already form a most important part of the food of most European nations; and tobacco, though it also is of American origin, has been diffused from one extremity of the Old World to the other, and is, perhaps, the most universally esteemed of all luxuries. We also owe to America maize or Indian corn, millet, cocoa, vanilla, pimento, copiba, cinchona or bark, so important in medicine, jalap, sassafras, nuxvomica, and a great number of less important plants. The *Cactus cochinitiflor*, which furnishes the cochineal, is also peculiar to America. On the

other hand, America is indebted to the Old World for a great variety of cereal grasses, trees, and fruits. At the head of the former may be placed wheat, barley, oats, and rice, all of which succeed admirably well in large portions of America. It seems pretty well established that the sugar-cane is indigenous to some of the W. Indian islands; but it is abundantly certain, not merely that the art of making sugar, but that the cane, now most generally cultivated in the islands and in continental America, was brought to them either from the E. Indies or from Madeira. America is also indebted to the Old World for the coffee plant, now one of her staple products; and for oranges, lemons, peaches, and most descriptions of fruit-trees. New York apples, though now very superior to any produced in this country, are derived from plants carried from England. The vine has been raised in America; but either the soil or climate is not suitable for it, or, which is perhaps most probable, sufficient care has not been bestowed on the manufacture of the wine. The tea-plant has been tried in Brazil; but, owing to the dearth of labour, there is no chance of its being profitably cultivated there, or any where else in America.

The *Zoology* of America differs in many important respects from that of the Old World. Of about 1,850 mammals that have been described and classified, America possesses about 540; but, with few exceptions, she is singularly ill provided with the useful animals. As already stated, neither the horse, ox, sheep, nor hog were found in America on her discovery by Columbus; and the want of them must, no doubt, have been a considerable obstacle to the advancement of the natives in the career of civilisation. The elephant and the camel are also unknown in America; but she was not entirely destitute of useful animals. In Peru they had the llama, guanaco, paco, and vicuña, animals that bear a considerable resemblance to each other, if they be not of the same species. The first has a considerable analogy to the camel, though it is neither so large nor strong, and wants the hump. It was, and still is, employed to carry loads, and being docile and sure-footed, makes its way over the most dangerous paths. Its pace is slow, seldom exceeding 12 or 15 m. a day, and it usually carries about 80 lbs. Its wool, or rather hair, which is generally, but not always, white, is spun and made into articles of clothing. The guanacos and pacos are not so serviceable as beasts of burden as the llamas, and are comparatively little used. The vicuña, the smallest of them all, inhabits the least accessible parts of the Andes; it is chiefly prized on account of its wool, which is of a very superior quality. The flesh of these animals, though dry and coarse, is used as food. They are almost the only animals that the native inhabitants of America had been able to subdue, and to render subservient to their purposes. The bison, or American ox (*Bos americanus*), the largest native quadruped of the New World, is principally found on the prairie lands of the Rocky Mountains in N. America. It is rarely, if ever, seen to the S. of the Mississippi; and it is doubtful whether it was ever found on the Atlantic coast. The *Bos moschatus*, or musk ox, is found only in the most N. parts of America to the W. of Hudson's Bay, from 66° to 78° N. lat. Its horns, which cover all the forehead, are often of great weight. The Rocky Mountain goat, remarkable for the fineness of its wool, inhabits the Rocky Mountains from Mexico to the extremity of the range. Several species of deer are found both in N. and S. America. The rein-deer is the most northerly ruminating animal, being found in

Greenland and the remotest of the Arctic islands. On the W. coast it descends as low as the Columbia river.

America possesses several peculiar species of the genus *Canis*, or dog. The physiognomy of the American wolf, when contrasted with that of its European namesake, is very distinct. There is a great variety of foxes. The fur of the *Canis lagopus*, or arctic fox, and of some other varieties of the same genus, is of considerable value. The best known variety of the American dog is the *Canis familiaris*, found in Newfoundland. This animal is now very common in England, and is deservedly a great favourite. It is strong and active, has long, fine, glossy hair, a curved bushy tail, and webbed toes, by means of which it swims admirably well. The colour of the back and sides is generally black, with a white belly and legs, and frequently a white spot at the tip of the tail. It is naturally fitted, by its thick covering of hair, for a cold climate, and is more active and in better health in this country in winter than in summer.

The beaver (*Castor*) is more abundant perhaps in the NW. parts of N. America than in any other part of the world. But the great demand for, and high price of its fur, has led to a great diminution of its numbers, and to its nearly total extirpation in the more accessible parts of the country. The coyote, known in commerce by the name of neutra, and the chinchilla, are found in S. America. They yield a highly esteemed fur, and immense quantities of their skins are now imported.

America has but few beasts of prey. The most formidable; the *Felis onca*, or jaguar, is found only in S. America. It is larger and stronger than the panther; but is inferior in size and ferocity to the Bengal tiger, with which it is generally compared. The *Felis discolor*, or puma, is found in both S. and N. America; though denominated the American lion, it is neither so large nor fierce as the jaguar. A number of bears, some of them of the largest and most formidable description, are found in Arctic America: two are peculiar to it.

Tropical America has a great variety of apes, but none of them approach so nearly to the human form as the orang-outang, or chimpanzee, and none of them have the ferocity of the baboon. Many, however, have prehensile tails, endowed with so great delicacy of touch that they have been compared to the trunk of the elephant. This fits them admirably for travelling from tree to tree.

The vampyre bat, frequent in S. America, is very dangerous. It attacks the larger animals, and even man himself, when asleep; and as its bite is not sufficiently painful to awaken the victim, the bleeding it occasions sometimes proves fatal.

America is inhabited, or rather infested, by an immense number of reptiles. Of these the rattlesnake is one of the most common, and also the most dangerous: but there are others little less venomous. The true *boa constrictor* is found of an enormous size in the marshes and swamps of tropical America. Centipedes, sometimes a yard in length, with enormous spiders, as well as scorpions, abound in these regions. According to Humboldt, the white ants and termites are even more destructive here than their congeners in the Old World.

The birds of America are exceedingly numerous. The condor, which inhabits the most inaccessible parts of the Andes, though of less dimensions than was formerly supposed, is the largest and most powerful of all the feathered tribes. There are also a great many eagles, vultures, falcons, and

other birds of prey. A species of ostrich, but smaller than the African, inhabits the Pampas; and the woods of both Americas are the resort of vast flocks of wild turkeys, and pigeons.

The waters of America are well supplied with fish; and the rivers in the tropical regions produce also enormous lizards and alligators. In the lakes of the Caraccas is found the electric eel.

Nothing, however, is so worthy of remark, in relation to the zoology of America, as the wonderful increase of the horses and cattle carried there from Europe. Had we not been fully aware of all the circumstances in regard to their immigration, it would certainly have been supposed that they were indigenous to America, and that it, in fact, was their native country. They here roam about in immense herds in a state of pristine freedom; and so numerous have they become, that the slaughter of oxen, not for the carcass, but merely for the hide, is the principal business of many extensive provinces. (See PAMPAS.) In a single year above 800,000 hides have been exported from Brazil only, exclusive of those exported from Buenos Ayres, Montevideo, and other ports. In consequence, too, of the extraordinary increase of horses, the mode of existence of the natives in several parts has been wholly changed; they have become expert horsemen, and pass a considerable part of their time on horseback, approaching in this respect to the Tartars and Arabs of the ancient world. Sheep have not succeeded so well in America as cattle and horses; and their wool, in most parts, is generally of an inferior description.

Races of Men.—The native inhabitants of America differ in physical form, in language, and perhaps in intellectual character, from every other variety of the human race. Probably, however, the general agreement which exists among themselves is even more remarkable than their disagreement from other races. The *Red men*, as the Americans call themselves, in contradistinction to the European and African races, (that is, to the *Whites* and *Blacks*, the only two they have any knowledge of,) exhibit surprisingly little difference, although extending over 70° on the N. side, and 54° on the S. side, of the equator. Heat or cold, drought or moisture, elevation or depression of surface, have certainly no effect in the production, even of the small variations occasionally discoverable among them. 'The Indians of New Spain,' says Humboldt, 'bear a close resemblance to those who inhabit Canada, Florida, Peru, and Brazil. Over 1,500,000 sq. leagues, from Cape Horn to the St. Lawrence and Behring's Straits, we are struck at the first glance with the general resemblance in the features of the inhabitants. We think we perceive them all to be descended from the same stock, notwithstanding the prodigious diversity of their languages. In the portrait drawn by Volney of the Canadian Indians, we recognise the tribes scattered over the savannahs of the Apure and the Carony. The same style of features exists in both Americas.' The general physical form is as follows:—Skin dark, having more or less of a red tinge, usually called copper-colour, but thought to be more correctly characterised by that of cinnamon; hair of the head black, coarse, lank, shining, long, but not very abundant; hair on other parts of the body very deficient. The beard is seldom altogether wanting, but it is so uniformly scanty as often to present the appearance of its being so. Forehead long; eyes deep sunk, small, and black. Face broad across the cheeks, which are round and prominent; nose well raised, and round at the apex; mouth large, and lips thick; chest high, thighs massy, legs arched, feet large, hands and

wrists small. The height is nearly the mean stature of the European race, but the body is usually more squat and thick set. The countenance is hard-favoured, and the look stern, yet with a certain sweetness in the expression of the mouth which is a contrast to the rest of the features. It will appear from this statement that the races which the American most nearly resembles are the Mongul, Malayan, and Indo-Chinese. The features of the face are, however, more *amply* chiselled than in any of these; the frontal bone is more flattened than in any of them; and the stature is greater than it is, at least, in the Malayan race. Although in the tropical regions of America there are no black men, as in Africa or Asia, nor in its temperate regions any whites, as in Europe, still varieties do exist in an inferior degree, which may be compared to those which exist among Europeans, and among Negroes. The most striking of these are found in the short, squat, and tallow-coloured Esquimaux, about the polar regions of the N., and the tall Patagonians towards the S., extremity of the continent. The first of these differ in no respect, as far as physical form is concerned, from the people of the same name in Asia and Europe. The Patagonians or Puelches, inhabiting the SE. coast of the southern extremity of America, may be considered, after rejecting the exaggerations of early, and the contradictions of later travellers, as the tallest people in the world. If with us the medium height of the male sex may be estimated at 5 feet 8 inches, that of the Patagonians may be taken at six feet. Other races, remarkable for their great stature, also exist among the Americans; as the Caribees and Cherokees. But there are also races remarkable for their shortness, as the Peruvians, who are between the mean European standard and the Chaymas, whose average height, according to Humboldt, is 5 feet 2 inches, which makes them a full inch shorter than the Malayan race, yet much taller than the Esquimaux. Upon the whole, it may be remarked that the American race exhibits a wider difference in stature than any other family of mankind, while this difference, at the same time, would not seem to be productive of any essential variation in physical or intellectual capacity. In point of colour there exists also considerable variety; the brownish-red tinge for the most part prevails; but in some cases its intensity approaches to black, and in others to the fairness of a southern European. The probability is, after all, that the number of distinct races of men in America is at least as great as in other portions of the world, although their smaller numbers, and obscurity of the tribes make it more difficult to distinguish and class them. In this matter, languages, so useful a guide in Europe and Asia, have not, in America, on account of their multiplicity and intricacy, afforded as yet much assistance. The exceeding, and perhaps insurmountable difficulty of this branch of the inquiry may, indeed, be judged of when it is known that the number of distinct languages spoken by men whose numbers are not supposed to exceed 10,000,000 has been reckoned at no less than 438, and their dialects at 2,000. The intellectual powers of the American family, must, at first view at least, be considered as ranking very low even among the uncivilised races of mankind. The Americans, when left undisturbed to the exercise of their native energies, had not tamed any of the useful animals, whether for food or labour, the llama and vicuña by one tribe excepted. The Peruvians used gold, found in its native state, and they appear, also to have been able to smelt and harden copper—the utmost stretch of their ingenuity; but they knew nothing

of the use of iron. The agriculture of the most advanced of the American tribes was of a rudeness and imperfection of which there can hardly be said to have been an example in the Old World. The Quichua, the most improved of their languages, had no words to express abstract or universal ideas, as *space, time, being, matter, substance*, or even such as *justice, honour, gratitude, and freedom*. They had invented no species of writing, and the contrivances by which they attempted to depict and record their ideas are more rude than anything handed down in the traditions of European and Asiatic nations. In all the respects now mentioned, the Americans evinced their inferiority to the nations of Europe and Asia, and, in all but the invention of a rude sort of hieroglyphics, to even the Negro nations of Africa. Nature had not, indeed, in many respects, been propitious to them: she had denied them nearly all the domestic animals which have conduced materially to the civilisation of the inhabitants of the Old World; as the horse, ass, ox, camel, sheep, goat, hog, and most of our domestic poultry. But their want of ingenuity is sufficiently shown by their not availing themselves of such as they possessed; as the rein-deer, goose, turkey, and other poultry, soon domesticated by the European settlers. For their want of ingenuity in not discovering the art of smelting iron, no plea can be shown; and, indeed, it might rationally be supposed that the paucity of useful animals for domestication would rather have had the effect of directing and concentrating their efforts in other quarters. Mere handfuls of Europeans, in comparatively rude ages, subdued the most numerous and warlike tribes of America, and these handfuls have now grown into the majority of the population.

Of the origin of the American race we are totally ignorant. Neither the evidence of physical form nor of arbitrary customs and institutions, which could spring only from a common source, or the testimony of language, connect them with any other race of men. The testimony of language on this subject is particularly clear. For example, incontestable evidence of a connection exists among the great majority of those insular languages which extend over at least 60° of latitude, and between Madagascar and Easter Island, over 200° of longitude; but the moment we quit the last named island, which is but 45° from the coast of America, all further trace of a Polynesian language ceases. We are not, indeed, unaware that the comparison of a great number of American with a great number of Asiatic languages has exhibited a small number of resemblances: but these we are disposed to consider as forced, fanciful, or accidental.

The moral character of the native Americans has been depicted under very different colours. Their capacity of enduring hardships and privations of all sorts, and even the most excruciating tortures, without murmur or complaint, is well known, and is owing as much, perhaps, to physical causes as to the training they undergo. They cannot be accused of ingratitude, or of a want of hospitality, but they are in the last degree vindictive, cruel, and treacherous. When not engaged in war, or hunting, or drinking, they sink into a state of torpor and spathy from which nothing can rouse them. They have all, or mostly all, an irrepressible rage for spirituous liquors, to obtain which they will sacrifice everything. If the state in which women live be taken as indicative of the character of a people, the American Indians will be found to be almost at the bottom of the scale of civilisation. From the one end of the continent to the other, woman,

with very few exceptions, is a slave; she has to perform all the laborious occupations of the tribe, and is, in fact, degraded almost to the level of a beast of burden. Polygamy is very generally practised; and it is only in some rare cases that chastity is held in any estimation. Their religion is a rude species of idolatry or feticism. Cannibalism has undoubtedly prevailed over the whole continent, and is not yet entirely extinct. The Mexicans, the most advanced of the native nations, delighted in blood, and were accustomed, when invaded by the Spaniards, annually to offer up thousands of human victims on the altars of their gods. Even the Peruvians, the least sanguinary of all the Americans, they being Sabians, or worshippers of the heavenly bodies, did not scruple, on the death of their monarchs, to immolate hundreds of human victims on their tombs.

The natural inferiority of the native Americans, and their incapacity to attain to anything like real civilisation, are strikingly evinced by the result of the continued efforts of the Jesuits in Paraguay for their improvement. So long as the Jesuits resided among them, and could direct their efforts, and compel them to be industrious, all went on very well, and the golden age seemed to be restored. But the entire system was forced and factitious. The moment the Jesuits withdrew, the fabric that had cost them so much pains and labour to raise, fell to pieces. Civilisation had taken no real root among the Americans; and they relapsed forthwith into the indolence, improvidence, and idolatry, that seem natural to the race.

'From the moment,' says an able writer, 'that the Europeans landed in the New World, benevolence has been at work to instruct some portions of these tribes in religion and the arts, and flattering accounts have been published from time to time of the success of those humane persons who dedicated their lives to the task. But, after three centuries of incessant exertion, what is the result? Is there one tribe that exhibits the steady industry, the provident habits, the spirit of improvement, and the rational views of religion, which are to be found in any parish of England? We cannot find that there is. Many tribes, living near the whites, have adopted their habits and ideas to a certain extent, but merely under the influence of imitation. While missionaries and teachers are among them, every thing wears a favourable aspect; but their civilisation is never self-sustained. It is created by the agency of men of higher natural endowments, and when they are removed it moulders away, because it has no foundation in their character. Many parties of Indians, remnants of tribes once powerful, have lived peaceably, on reserves of land, inclosed amidst the population of the United States, for more than a century. No situation can be imagined better fitted to promote their improvement; but in no one instance, so far as we know, have they melted into the mass of the white population, or risen to any thing near their level in knowledge and the useful arts. They live in huts in no material degree better than the wigwams of their wandering brethren. They are generally honest, but drunken, indolent, and ignorant, though teachers and missionaries are employed by the government to instruct them. Basket-making is almost the only trade they ply, and in their habits and character they may be aptly compared to the gypsies of Europe, who exist in the midst of civilisation, without partaking of its spirit or its benefits. It should be observed that there is not the same reluctance in the whites to mingle their blood with the red men as with the blacks. Much has been recently said of the

progress made by the Cherokees; but we suspect that what is witnessed there is but a flimsy veil of improvement, spread over habits which are essentially savage. We are convinced, in short, that the Indian is truly the man of the woods; and that, like the wild animals he lives upon, he is destined to disappear before the advancing tide of civilisation, which falls upon him like a blight, because it supplies new food to nourish his vices, while it demands intellectual and moral faculties in which he is deficient, and renders useless those qualities which predominate in his character. We would not discourage the attempt to meliorate the lot of the Indians; but this will succeed best when it is grounded on a true knowledge of their natural capacities. Some of them are much more susceptible of moral and religious improvement than others; but to instruct and reclaim them effectually, our belief is that the system of the Jesuits is the only one that holds out a chance of success. They must not merely be taught and preached to, but they must be retained in a state of pupillage, trained to their duties, controlled and directed in all their proceedings by intellects superior to their own; and there are many tribes too ferocious and intractable for even this method of tuition. We do not maintain that the character of the Indian nations is indelible; but to effect any considerable change in it, the lapse of a longer period would be required than the existence of these tribes is likely to extend to. Neither do we think that there is anything in the extinction of these people by natural means which humanity should mourn over. In every state of life man has but a brief span of existence allotted to him. Successive generations fall like the leaves of the forest; and it should be remembered that the extinction of a race of men by natural causes, means merely its non-renewal or the suspension of those circumstances which enabled it to continue its existence.' (Encyc. Britannica, ii. p. 631.)

Population.—Besides the original inhabitants, vast numbers of Europeans of all nations, have emigrated to America since its discovery by Columbus, tempted originally, for the most part, by the *aura sacra fames*. It was this same passion, taking it in its most literal and degrading sense, that has made them fill the Antilles, and part also of the continent, with millions of negroes brought from Africa, and reduced, with their descendants, to a state of slavery. But at a later period America furnished an asylum for the victims of political and religious persecution in the Old World; and for these many years she has offered an all but inexhaustible field for the profitable employment of its redundant capital, skill, and labour; and thousands upon thousands, who could hardly contrive to exist on this side the Atlantic, have attained, if not to opulence, at least to comfort and independence, in America. Hence she has long been, and still continues to be, the promised land of the poor but industrious man; and a city of refuge to all who happen to be discontented with the policy, or who have given offence to the rulers, of the Old World.

The estimates of the population of America at different periods have differed very widely, in consequence of the vague and defective nature of our information with respect to it. Humboldt estimated the population of America, including the Antilles, at 85,000,000. Balbi estimated it, for 1827, at 39,000,000; but we incline to think that this was below the mark even for the epoch to which it refers; and the population of the United States, British America, and Brazil, but especially the first two, has since increased prodigiously. According to estimates for the year 1861, which we

subjoin, the population is estimated at 69,250,999; but this number, owing to the large natural increase, and the extensive immigration from Europe to both North and South America, must at the present day be exceeded by many millions, and it may be safely stated that the population amounted, in round numbers, to at least 79,000,000 in the year 1865.

The following account of the different American States, and of their extent and population in 1861, has been carefully compiled from the latest and best authorities:—

Estimate of the Area and Population of the American States in 1861.

States	Area in sq. m.	Population
NORTH AMERICA:		
Russian Territory . . .	394,000	72,375
Greenland . . .	380,000	9,400
British N. America . . .	3,640,000	3,246,469
United States . . .	2,999,811	31,445,089
Mexico . . .	857,151	7,995,426
Central America . . .	174,850	2,328,750
West India Islands . . .	86,548	2,917,215
SOUTH AMERICA:		
Gulana . . .	136,000	290,829
Granadian Confederation . . .	515,000	2,363,000
Venezuela . . .	426,712	945,408
Ecuador . . .	285,458	1,040,371
Peru . . .	509,034	2,500,000
Bolivia . . .	510,368	1,987,352
Chili . . .	115,802	1,558,319
Argentine Confederation . . .	542,786	1,171,800
Uruguay . . .	71,800	240,965
Paraguay . . .	74,000	1,337,431
Brazil . . .	3,138,498	7,677,800
Patagonia and Falkland Islands . . .	396,000	125,000
		69,250,999

Diseases of America.—The Anglo-American population is subject to the same diseases as the people of England; but suffers more from intermittent and remittent fevers. Yellow fever sometimes prevails epidemically as far north as New York and Philadelphia; but the mean duration of life in the English race has been inconsiderably affected by the climate of America. Deadly epidemics however, decimate the Havannah, Vera Cruz, and other cities in tropical America. The yellow fever begins to prevail epidemically at Vera Cruz in May, when the mean temperature rises to 75° 2' of Fahrenheit's thermometer; it attains its maximum force in September and October. The disease is fatal to strangers, particularly to the inhabitants of the temperate and cold climates. In the intendency of Vera Cruz, the yellow fever, which rages in the capital, has never been able to ascend above the farm of Encero, which Humboldt found to be 3,044 feet above the level of the sea; and as the Mexican oaks do not flourish below this limit, it shows that the constant average temperature is of a true tropical character. Humboldt also observes, that, while yellow fever rages at La Guayra, it never crosses the Cumbre and the Cerro de Avila.

The condition of the mothers, and the training of the children, exercise an influence upon the health and diseases of the native American tribes which cannot be overlooked. The women, though doomed to severe labour, are spared during the period of pregnancy. They seldom marry till they are about 20. Accouchements take place in private cabins, and the mother, after washing herself in cold water, returns in a few days to her usual employments. Sir W. Penn was assured, and correctly, that the American Indians plunge their infants into cold streams as soon as born, in all seasons of the year. This practice, which destroys

the weaklier bodies, and strengthens the survivors, has been generally adopted by the savages of cold and temperate climates. It was common in Greece; and Virgil makes one of the early Italians say in the *Æneid*:—

*Durum a stirpe genus : natos ad flumina primum
Deferimus, sævoque gelu duramus et undis.*

The Dorians and Pelasgians exposed their children; and Lycurgus regulated the practice by enacting that none but the infirm and diseased should be abandoned after a public examination. There are no deformed Indians or idiots; they are sacrificed, says an apologist of savages, by the severity of the Indian manners. To facilitate their transport from place to place, the children are tied to a board, where they lie upon their backs for 6, 10 or 18 months. By some tribes the heads are flattened by pressure. The child generally sucks its mother till it is 2 years old, and sometimes longer. The circulation of the blood is more languid in the Indians than in persons who are in the constant exercise of the habits of civilised life. Out of 8 North American Indians, whose pulses Rush examined at the wrists, he did not meet with one in whom the artery beat more than 60 strokes in a minute.

The diseases of the Indians vary with the climate and locality. In the north, however, fevers constitute the most striking diseases. Pleurisies, peripneumonies, and rheumatism are common. Dysentery is an Indian disease. Great numbers perish of famine, and the innumerable diseases generated by famine. In the temperate zone, ague, remitting and malignant fevers assail them in the endless forests, and in the marshes, and effluvia atmosphere of the lakes and rivers. In the tropics, Humboldt says, they are exempt at Vera Cruz from the ravages of yellow fever, which proves so fatal on the coast and in the West Indies to Europeans. But thousands have been carried off in repeated epidemics, by a disease not very different from yellow fever, called *Matlazahuelt*. Small-pox, which is believed to have been introduced amongst them by the Spaniards, sometimes destroys half the heads of a tribe. Montezuma died of small-pox. It has been a generally received opinion that *lues venerea* was acquired from the inhabitants of Hispaniola (Hayti), and conveyed by the equipage of Columbus to Europe. The son of Columbus relates in his narrative that the islanders had a cutaneous affection, called *cuxacacacol*, which resembled a tetter (Tenia): the historian Ferdinand Oviedo de Valdes affirms that the Spaniards were infected with it by the Indian women, and communicated the disease to the Neapolitans in the expedition of Gonzalvo de Cordova. He ascribes its importation to the second expedition of Columbus. Various cutaneous affections had been described by earlier medical writers, confounded with leprosy, and attributed to impure intercourse; but, in 1493, syphilis appeared, with its striking and appalling symptoms, almost simultaneously all over Europe. Columbus disembarked from his first voyage, March 15, at Palos; and arrived at Seville in April. In the beginning of the summer, the disease was observed at Auvergne, in Lombardy, in the rest of Italy, and in Brunswick. It still, however, remains a problem whether the outbreak of the malady merely coincided with the return of Columbus, or was conveyed from America.

Violent deaths are common among the Indians. Their occupations expose them to accidents. They are engaged in an almost perpetual warfare; and entire tribes are sometimes exterminated. Their connexion with the European population has made

them acquainted with spirituous liquors; and this has proved another prolific source of disorder.

Celsus says, *Medicina nunquam non est*; and this holds among the American Indians. Their medical treatment, for the infirmities to which they are subject, is simple, and often instructive. In fevers, they abstract all kinds of stimulating food; and allow their patients to drink plentifully of cold water. Sweating is a common remedy. The Indian mode of procuring this evacuation is as follows:—the patient is confined in a close tent, or wigwam, over a hole in the earth, in which a red hot stone is placed; a quantity of water is thrown upon this stone, which instantly involves the patient in a cloud of vapour and sweat; in this situation he rushes out and plunges himself into a river, from whence he retires to bed. If the remedy has been used with success, he rises from his bed in four and twenty hours perfectly recovered from his indisposition. This bath is used not only to cure fevers, but to remove that uneasiness which arises from fatigue of body; and used for this purpose it is an excellent remedy. They purge and vomit: ipecacuanha is one of the many roots they employ for the latter purpose. They confine bleeding to the parts affected. A piece of rotten wood is burnt upon the skin for the same purposes as the moxa. They attempt to staunch the flow of blood from wounds by plunging in cold water, and endeavour to restore drowned people by suspending them by the heels. They have a great many specifics of uncertain value. The Indians attend to the sick for a certain season, but abandon them if the disease be protracted. When the northern Indian is unable, from sickness, to continue his journey, he is left behind by his companions, and covered over with deer skins; he is supplied with water, food, fuel, if the place will afford it, and informed of the track which his companions intend to pursue. (Hearne.)

Some of the most important drugs in the *Materia Medica* are derived from America. Guaiacum was introduced, at an early period, as a specific for syphilis in the place of mercury, which it superseded for several years. It is now fallen into disuse. Not so the root of the American sarsaparilla, which is consumed in great quantities, although it is exceedingly expensive. It is found in the hedges and swamps of Virginia. There are several species; the best, according to Humboldt, grows on the borders of a lake, two days' journey from Esmeralda. The calumba root, jalap, copaiba, and ipecacuanha are derived from America. We are also indebted to the New World for Peruvian bark. These remedies are invaluable; they contributed, in the 17th century, with the introduction of syphilis, to destroy the blind adoration of Galen, and led to a revolution in medicine.

Discovery of America.—This is the most striking event in modern times, and has perhaps made the most important change in the condition of mankind. There is no rational ground for supposing that the ancients had the slightest idea of the existence of the American continent. The form of their vessels, flat-bottomed and impelled by oars, and their ignorance of the compass, allowed them to move only at a short distance from land. Their voyages therefore, though in some instances extensive, were always along the coast of the great continents; nor is there the faintest record of any one having turned his daring keel into the vast abysses of ocean. Nothing could be less probable, than that tempest or accident should drive any of the few vessels which then navigated the exterior seas of Europe to so immense a distance, or, if driven, that they could ever have returned.

But if we listen to some learned moderns, America would appear the general refuge of all who felt themselves straitened in the Old World. The Trojans, Syrians, Carthaginians, Canaanites, but above all the Jews, have been represented as the undoubted ancestors of its present people. These speculations proceed upon a total oblivion of the fact that man has every where many things in common with his fellows. The division into tribes and respect for chiefs, the lamentations over dead relations, the love of ornament, are considered as habits which the Americans must have learned from the Jews. Garcia, observing that most of them honoured their parents, and considered theft and murder as crimes, thinks it clearly proved that they received the ten commandments from Moses. Others were obstinate, unbelieving, and ungrateful; sure signs of their belonging to the stiff-necked posterity of Abraham. (Garcia, *Origen de los Indios*; *Essai sur la question, Quand et comment l'Amérique a-t-elle été peuplée?* 5 tom. 12mo. 1757; Adair's *History of the North American Indians*, 4to.) Attempts have been made to trace a similarity between the languages of the Old World and of America, but certainly with most slender success. Barton has collected 55 similar sounds, which Professor Vater has raised to 104, and Malte-Brun to 120; but to produce this, it has been necessary to search through sixty languages in each world.

The Welsh have put in a claim to the discovery of America. In 1170, Madoc, a prince of North Wales, sailed in quest of maritime adventure, and, after a long voyage, reached a 'faire and large country' filled with wonderful objects: he then returned and took with him ten vassals and a larger party. Thus far seems tolerably attested; but though affording a sufficient foundation for Mr. Southey's poem, the idea of the region arrived at being really America seems scarcely to merit refutation. The intimation, that he left Ireland far to the north, makes it not improbable that he might have reached some part of Spain, no inconsiderable achievement in that age for a Cymric chieftain.

The claim of discovery by the Northmen from Iceland has been much more generally received. The Scandinavian writers have supported it as a point of national honour; and the learned in the rest of Europe have generally acquiesced in their authority. They would not, we think, have done so had they perused the original narratives in Torfeus, and the *Heimskringla*, or *Saga*, of King Olaf Tryggvesson. Biorn, an Icelander, in sailing across to Greenland, was overtaken by a tempest, and after being tossed about for several days, came in view of an unknown land. After navigating several days along the coast the wind became favourable, and in four days he reached his destination in Greenland. Can any one seriously suppose, that in this short passage he could have been driven upon Newfoundland, upwards of a thousand miles out of his way, or if driven, could thus directly and rapidly have retraced his course? Numerous voyages to and from this new country, named Vinland, are then related, with no mention of particular difficulty or danger. One of them is stated, without any surprise, to have been performed in twenty-four hours; a manifest impossibility under the Newfoundland supposition. As to the term *Vin-land*, very inappropriate even to Newfoundland, the Northmen probably, who could not be great connoisseurs on this subject, mistook for the grape one of those delicate berries which abound on the Arctic border. We are convinced then that Vinland was merely a southern part of Greenland; for the modern hypothesis, which

places the colonies on the western coast, is by no means supported by good early authorities. (Torfeus, *Hist. Vinland. Antiq.* ch. i. ii. v., p. 50 (*Maps of Stephanus and Thorlaims*), *Heimskringla*, edit. Peringskiöld, I. 328-335.)

Another alleged discovery of much celebrity stands on the report of the Zeni, Venetian noblemen of distinction. Towards the end of the fourteenth century, they visited and spent a considerable time in Friesland, an insular country in the north of Europe, which Forster has shown to agree not ill with Orkney, Shetland, and the Ferro islands. They there learned, that four fishing-boats being driven more than a thousand miles to the westward, had reached a coast named by them East-out-land, where they found cultivation, large cities, castles, and a Latin library in possession of the king. Thence they sailed to a more southern country, named Drogi, inhabited by a rude people, ignorant of iron, waging furious wars, and devouring each other. Reports were then made of a more civilised people to the south-west, who abounded in gold and silver, and had splendid temples in which human sacrifices were offered. Forster, Malte-Brun, and for some time geographers in general, considered that these countries were undoubtedly Newfoundland, New England, and Mexico. Mr. Murray was, we believe, the first to observe, that even the distance of 1,000 miles by no means corresponded; that the castles, libraries, and populous cities on the savage coast of Newfoundland, were the reverse of credible, and that accounts of Mexico were little likely to have reached the Friesland fishermen. He argued therefore that, supposing the northern voyage correct, interpolation must have been practised in what related to America. This has been corroborated by the research of Mr. Biddle, who, on comparing different posthumous editions of Ramusio's work, found that the narrative had been altered in accordance with successive and corrected accounts of the new continent. He therefore rejects the whole as a forgery: we rather incline to think that the northern voyage may be genuine, while all that relates to America is undoubtedly interpolated.

In the maps constructed during the fifteenth century, some curious features appear, which have been referred to a western world. In 1436, one formed at Venice by Andrea Bianco has in the north-west Atlantic, not very remote from Newfoundland, the word *Stoka fixa* (Stockfish). But it is to be observed that Iceland and the adjacent seas were then the seat of a great fishery, and the term may have been merely used to express the abundance of its finny tribes. Another remarkable object in this map, as well as in one long prior, and in a subsequent one by Martin Behaim, is a long range of territory west of the Canaries, named Antilia. It seems impossible to trace with certainty the origin of this term, which we strongly suspect to be a corruption of the Atlantis of Plato, and to have no other origin. The inhabitants of those islands are said to have confirmed the impression, by asserting that, in certain states of the atmosphere, they saw in mysterious distance a great unknown land; the work either of imagination or of some optical deception. These ideas, however, rested on no solid basis, and the sound judgment of Columbus appears to have been in no degree influenced by them; it was not Antilia, but to other regions, that he directed his voyage.

Perhaps no individual ever stood so much alone as this navigator, in making a discovery that changed the face of the world. He conceived the design, and struggling against the opposition

made by his age, singly achieved it. Yet, like every other great revolution, it was doubtless prepared by previous circumstances. The progress of navigation and commerce, the enthusiasm excited by maritime discovery, its wide range along Africa, and towards India, all tended to give this direction to his spirit of lofty and daring adventure. The invention of the compass, and improved celestial observations, rendered it no longer impossible to steer through an unknown ocean. Sound reasoning, aided by some errors, made him hope, by sailing westward, to reach, even at no very great distance, the coasts of Eastern Asia.

Columbus, being firmly impressed with this opinion, and being supported by the judgment of learned friends, made the first offer to Genoa, his native country; but the citizens, unused to oceanic expeditions, at once rejected it. He then applied to Portugal with seemingly every chance of better success; and King John accordingly referred it successively to a special commission, and to the council of state. There was then, however, a powerful party opposed to maritime enterprises altogether, as wasting the national resources; while their opponents merely defended a prosecution of the sure and successful career, by which they had nearly rounded the southern point of Africa. The proposal was rejected, while John was persuaded to take the mean step of secretly sending a vessel on his own account, which, however, returned without any success. Columbus next repaired to Spain, then under the able sway of Ferdinand and Isabella. Here, however, cosmographical knowledge was much less advanced; the globular form of the earth was doubted by many, and even represented as against the authority of scripture and the fathers. Financial difficulties, caused by the war with the Moors, and the lofty demands of Columbus to have the offices of viceroy and high admiral made hereditary in his family, operated against him: and five years' solicitation was vainly employed. Proposals were then made by his brother Bartholomew to Henry VII. of England, who received them more favourably; but as Columbus was on the point of setting out for this country, Isabella was persuaded to recall him, and, after some further difficulties, she engaged in the undertaking with the utmost ardour, and even pledged part of her jewels to raise the necessary funds.

The expedition after all consisted but of three small vessels, and cost only 4,000*l*. Columbus sailed from the port of Palos on the 3rd of August, 1492, and went by way of the Canaries. He encountered innumerable obstacles arising chiefly from the timid and mutinous temper of his seamen, and after exhausting every resource furnished by his extraordinary address and perseverance, had been obliged to promise to return in a few days, if still unsuccessful. Signs of land, however, became frequent, and on the night of the 11th of October a light was observed at some distance, and the joyful sound of land! land! burst from the ships. But having been often deceived before, they spent the night in a state of the utmost anxiety. As soon, however, as morning dawned, their doubts and fears were dispelled; and the natives of the Old and the New Worlds found themselves, for the first time, in sight of each other. The land on which Columbus made his descent, and which had a pleasant delightful aspect, was one of the Bahama Islands, called by the natives Guanahani, and by the Spaniards San Salvador. Having landed, and taken formal possession of the country for the crown of Spain, Columbus became satisfied, from the poverty of the natives, that this was not the rich country of which he was in search. He

therefore immediately set sail, and, shaping his course a little more to the S., successively discovered the great islands of Cuba, and Hayti or Hispaniola. After various transactions with the natives of the latter, he erected a fort, and leaving there a detachment of his men, set out on his return to Spain, arriving, after being obliged to take refuge in the Azores, and in the Tagus, at Palos, on the 15th of March, 1493, having spent 7 months and 11 days in his memorable voyage. He brought with him pieces of gold, a party of natives, and specimens of the vegetable and animal productions of this new world. His arrival was hailed with an enthusiasm of wonder and admiration in Spain and in Europe, and he made his entrance into Barcelona almost in regal pomp.

Columbus found no longer any difficulty in equipping a new armament, to which volunteers flocked from every quarter. In September he set sail with 17 vessels, several of large burden, and having 1,500 persons on board. Though he found his colony involved in many troubles, he was not deterred from pushing his enterprises to the westward. Having fallen in with Cuba, he sailed along its southern coast, then steering to the left, lighted upon Jamaica. He was delighted with the rich verdure and picturesque aspect of these fine islands, which he firmly believed to be parts of the Asiatic continent. Having returned to Spain, he set out, in 1498, on a third voyage. Having first proceeded southward to the Cape de Verd Islands, and steering thence across the Atlantic, he came in view of the lofty mountains of Trinidad. Rounding that island into the Gulph of Paria, he saw the Orinoco rolling by many mouths its mighty stream into the ocean. This discovery highly gratified him, and was, indeed, the first time that any part of the S. American continent had been visited by Europeans. He sailed along the coast as far as Margarita, and thence to Hayti. In 1502 he undertook a fourth voyage, seeking to push westward till he should arrive at regions belonging to India. In this course he struck against the coast of Honduras; where, instead of turning to the right, which would have led him to Mexico, he took the left, or NW. course, as most promising for his object. He reached the Gulph of Darien, but without seemingly gaining any intelligence of the South Sea. He then returned to Spain, where, weighed down by hardships, and disgusted by the ingratitude of Ferdinand, he closed, in 1506, his unrivalled career.

America had, in the interval, been explored from a different quarter. John Caboto, or Cabot, a Venetian, who had settled at Bristol, presented to Henry VII. a plan of western discovery. That monarch, who had nearly earned the glory of Columbus's voyage, gave his full sanction to the undertaking. The adventurer, it appears, was willing to defray the whole expense; but whatever regions might be discovered, he and his family were to rule them as lieutenants, and to enjoy the exclusive trade, paying, however, to the king 1-5th part of the profits. The patent was granted in 1495, but circumstances prevented him from sailing till 1497. Then proceeding due west, he arrived, on the 24th of June, at a land, with an island adjacent, which appears to be Labrador and Newfoundland. This was the first discovery of the continent, since it was not till 1498 that Columbus reached the mouth of the Orinoco. Cabot brought home several of the natives, and, though the aspect of the coast was not very inviting, Henry was so much gratified that he next year granted a fresh patent, allowing him to take up any 6 ships within the realm, equip them at the

royal expense, and receive on board any number of English subjects who might be pleased to accompany him. John, from some unknown cause, did not go out in person; but the expedition was led by his son Sebastian, who, though a youth, showed already the talents of a great navigator. According to the very imperfect accounts of his voyage, he had with him 800 men, and sailing by way of Iceland, reached the coast of Labrador in about lat. 66°. Discouraged by its bleak appearance he steered to the south, and continued in that direction till lat. 38°. (Hackluyt, iii.; Memoir of Cabot, ch. 5-10; Tytler's Northern Coasts, Amer.)

Meantime, in another quarter important discoveries were proceeding. Vincent Yanez Pinçon, in crossing the Atlantic from the Cape de Verd Islands, was assailed by a tempest, which drove him to the southward of the equator; and, after being bewildered for some time amid unknown seas, he came in January 1499, to the view of an unknown coast, which was that of Brazil, near Cape St. Augustin. Thence he coasted northward to the mouth of the Amazons, and viewed with astonishment the immense body of water poured by it into the ocean, justly inferring that it must have rolled through a continent of vast extent. Three months after, Alvarez Cabral, despatched to India to follow in the footsteps of Vasco de Gama, came upon a more southern part of the same coast, which he named Santa Cruz, and took possession of it in the name of the king of Portugal.

America had thus been reached in three different and distant quarters, on a scale which conveyed a high idea of its greatness, but without at all ascertaining its outline and limits. There was still ample unexplored coast to leave room for the passage to India, which continued to be the grand object in the discoveries that immediately followed. We shall begin with those most important ones, made by way of the Gulph of Mexico. Even before the fourth voyage of Columbus, Alonso de Ojeda, on learning the results of the third, set out from Spain in 1499, and following up the career of his predecessor, explored the coast from Margarita to Cape de Vela. He was accompanied as pilot by Amerigo Vespucci, a skilful navigator, who, returning to Europe, published a narrative of the voyage, representing himself as the first discoverer of the continent. The relation was read with extraordinary interest, and the public adopted the name of America, yielding him an honour undoubtedly due to Columbus. In 1500, Roderigo de Bastidas explored the coast from Cape Vela to the point reached by Columbus in his fourth voyage, thus connecting a vast extent of continent. Ojeda and Nicuesa obtained grants of different portions; but their colonies, conducted rashly and violently, were almost entirely destroyed. A remnant was assembled at Darien by Vasco Nugnez de Balboa, an officer of great enterprise, who, penetrating across the isthmus, came in view of the great southern ocean. Vast prospects were thus opened; but the court of Spain ungenerously transferred the chief command to Pedrarias Davila, who, actuated by mean jealousy, persecuted and put to death his predecessor, without himself achieving any thing of importance.

The discovery of the northern coast of the Gulph was begun by Ponce de Leon. This officer, while in command at Porto Rico, was misled by the illusory report of a fountain, in which whoever bathed was restored from the most decrepit old age to all the bloom and vigour of youth. In pursuit of this chimera, he beat about from coast to coast, plunging into every pool, of course without success. In the course of his search, he came in view

of an unknown coast, which he named Florida. Sailing along to a considerable extent, and turning the southern point, he ascertained it to be part of the continent, and the Spaniards long continued thus to name and to claim as their own the whole territory to Canada inclusive, though they were ultimately unable to maintain more than this southern extremity.

The main direction was still towards the west. In 1517, Cordoba from Cuba sailed along the coast of Yucatan, and collected some intelligence of the wealth and civilization of Mexico. He was followed next year by Juan de Grizalva, who, in the same direction, traced the entire coast of Mexico as far as Panuco. The fertile shores, well built towns, and abundance of gold, inspired the most flattering ideas of this coast, which was immediately dignified with the title of New Spain. In 1519, Garay, governor of Jamaica, sent four ships under Pineda, who, beginning at Florida, traversed the whole coast as far as Vera Cruz. The entire survey of the Gulph of Mexico was thus completed. (Oviedo, Robertson, Marit. and Int. Discov. B. iv. ch. iii. iv.; Bancroft's Hist. United States, ch. ii.)

Velasquez, governor of Cuba, on receiving the flattering accounts brought by Grizalva, determined to lose no time in fitting out an armament for the conquest of New Spain. Jealousy, however, deterred him from employing the original discoverer; and he gave the command to Hernan Cortes, a personal favourite, but who possessed every quality fitting him for such an undertaking. In March, 1519, he landed at Vera Cruz, and having burned his ships, marched into the interior with about 500 men. With this small force, seconded by his own superior sagacity and daring, Cortes subverted the empire of Mexico, put its sovereigns to death, and annexed it to the Spanish crown. Having reached the South Sea, he employed Alvarado to march along its coasts, which he did for the space of 400 miles, till he reached Guatemala. Nunez de Guzman afterwards penetrated the northern provinces to New Galicia, now Guadalajara and Zacatecas. Cortes himself, having equipped a fleet in 1536, discovered the peninsula of California, with its deep gulph, commonly named in that age the Vermilion Sea. (Cortese Relazioni, Ramusio, III. Robertson.)

The discovery by Balboa of the South Sea remained long without any result, through the weakness or disunion of the officers employed. The most tempting accounts were however received of the wealth of Peru, and the abundance of its precious metals. In 1531, Pizarro, a daring adventurer, who had sailed with Ojeda, after one unsuccessful attempt, succeeded in assembling a band of brave and fierce followers, with whom he sailed to attack that great country. By a union of boldness and treachery, he seized the empire and treasure of the Inca; and Peru became an appendage of the Spanish crown. Almagro, the companion and rival of Pizarro, pushed southward into Chili, but he met there with great difficulties, and was recalled by the affairs of Peru. Pedro de Valdivia, however, having the government of that country conferred upon him, marched to the southern border of its fertile territory, as far as 40° S. lat. Vadillo, in 1537, made a march from Darien to Peru, through the fine countries of New Granada and Quito. Expeditions to conquer the latter were undertaken by Banalcazar and Alvarado, who, after contending for its possession, agreed to divide it between them. In 1540, Gonzales Pizarro, brother to the conqueror, undertook an expedition through the Andes to the west of Quito, in hopes of discovering a country said to

abound in fine cinnamon. After numberless hardships, he came to the banks of the great river Amazon. Having followed its course for some distance, he employed Orellana, one of his officers, to descend the stream in a light bark to search for provisions. Orellana, inspired by a spirit of adventure, continued his voyage, and traced the whole of its immense course down to the ocean.

While the above-mentioned events were in progress, discovery proceeded, though in a less brilliant train, along the eastern coast. In 1514, Juan Diaz de Solis, a skilful mariner, was sent to sail round America, and reach the opposite side of the isthmus of Darien. Solis, beginning with St. Augustine, the limit of Pinçon's discovery, surveyed the whole coast of Brazil, and then came to the grand opening of the Rio de la Plata. But, having incautiously ventured on shore with a small party, he was surprised by the natives, and, with several of his party, experienced the dreadful fate which awaits those captured by the cannibal tribes of this continent. The remaining crews, on witnessing this catastrophe, were struck with dismay, and immediately returned home. Three years after, Fernando Magalhaens, or Magellan, a Portuguese, discontented with his treatment in his native country, offered his services to Charles V. The immediate object was to reach the Moluccas from the west, and thus, according to the papal grant, establish a claim to those islands, which were then much valued. A fleet of five sail being equipped, he sailed in September 1519, and having proceeded along the coast of Brazil, reached Port St. Julian, where he wintered. In October 1520, he entered the strait bearing his name, and after a few weeks' navigation, saw the great Pacific opening before him. He stretched directly across, and came to the Philippines, where he was killed in a contest with the natives; but his vessel had the honour of being the first that circumnavigated the globe. In 1526, Sebastian Cabot was sent out to the La Plata, where he ascended the Parana and the Paraguay, and, notwithstanding the opposition of the Portuguese, established two or three forts. In 1535, Juan de Mendoza, an opulent Spaniard, founded the city of Buenos Ayres, and in 1537 Juan de Ayolas penetrated across the Andes to Peru. Thus the great outlines of Southern America were traced in every direction. (Herrera. Robertson. Marit. and Int. Dis., B. IV. ch. vi. vii.)

Discovery in the north did not proceed with the same rapid steps. We have already noticed the important voyages made by the Cabots. This excited the rivalry of the Portuguese, and in 1500 Gaspar de Cortereal, a nobleman of that nation, set sail and surveyed a considerable extent of the coast of Labrador. He carried off about 50 of the natives, to employ them as slaves; but the enmity of the people, thus justly roused, probably led to the fatal result of his next voyage, from which he never returned. His brother Michael, sailing in search of him in the following year, met the same fate, which was shared also by another expedition sent in 1503.

The reign of Henry VIII. was unfavourable to nautical enterprise. The discovery of the Cabots was not followed up, and Sebastian sought the service of Spain. He was sent out, however, in 1517, as pilot to an expedition commanded by Sir Thomas Pert, which, it appears, actually entered Hudson's Bay; but the commander then lost courage and returned, to Cabot's great indignation. This discovery attracted little notice, and was soon forgotten.

France now entered on the career of American discovery. In 1524 Francis I. employed Giovanni

Verazzano, a Florentine navigator, who sailed along and described the coast from Carolina to Newfoundland. Unhappily, in a subsequent voyage, he fell into the hands of the natives, and suffered a cruel death. Ten years after Jacques Cartier, a seaman of St. Malo, performed several voyages, in which he entered the Gulf of St. Lawrence, and ascended the river as high as Montreal. Attempts were then made to colonize these countries, for some time without success: however, in 1604, De Montz founded the colony of Acadia, and Champlain, in 1608, that of Canada. The latter, engaging in warlike expeditions, penetrated southward to the lake bearing his name, and westward beyond Lake Huron.

The Spaniards meantime, as already observed, had, under the title of Florida, claimed nearly all North America; nor were they wanting in vigorous efforts to make good their title. In 1520, Lucas Vasquez de Ayllon discovered and attempted to form a settlement on South Carolina; but having begun by entrapping and carrying off a number of the inhabitants, he excited such a fierce enmity that many of the settlers were killed, and the rest returned to Hispaniola. In 1524, Estevan Gomez sailed as far as the latitude of New York, whence he brought off a cargo of slaves. A more important expedition was undertaken in 1528 by Narvaez, the rival of Cortes, and sent to supersede him, but who had been vanquished and made prisoner. He now sought to indemnify himself by a kingdom in Florida. He landed with a force of about 600 men, and advanced about 800 miles into the interior, baffling all attempts to oppose his progress. The natives, however, irritated by his violent and domineering conduct, posted themselves in the woods, and harassed him by constant attacks and surprise. The Spaniards, completely exhausted, and in extreme want, were obliged to seek the nearest coast. Unable to reach their ships, they constructed frail barks, which, on coming out to the open sea, were wrecked, and almost the whole number perished. Alvaro Nugnez, the treasurer, being cast ashore, contrived, by conciliating the Indians, acting as a merchant and physician, and even pretending to work miracles, to make his way to Mexico, after a seven years' pilgrimage. The land route was thus traced between that country and Florida.

This catastrophe did not prevent another attempt. Fernando di Soto had been an associate of Pizarro in the conquest of Peru, where he distinguished himself by the capture of Cuzco, and other exploits. He returned to Spain with a high name and a princely fortune; but instead of sitting down to enjoy these, he resolved to make them instruments for conquering an empire for himself. His reputation attracted many of the most distinguished Spanish youths as volunteers; and in May 1528 he landed in Florida, with a more powerful armament than those which had conquered Mexico and Peru. The exploits of Soto surpassed, in daring valour and brilliant achievement, those of Cortes and Pizarro; but his fortune was far different. There was here no great empire, no central point to strike at. He struggled on amid a succession of fierce and petty tribes, whom he always vanquished, but who rose around and behind him, and never left to his troops more than the ground which they covered. He was lured on by reports and specimens of the gold formation of North Carolina; but arriving there, in a most exhausted state, and finding only ridges of naked hills, he turned back. He afterwards pushed far to the westward, crossed the Mississippi in about lat. 35°, and proceeded north-

ward to near the present site of New Madrid. Finding no report of gold, or rich kingdoms, he made a dash at the extreme west, passed the heads of the White River, then descended the Washita and Red River to the Mississippi. Here, overpowered by fatigue and disappointment, he sunk into the grave. The miserable remnant of his men, anxious to conceal his death from the Indians, carried the body at dead of night into the middle of the river, and sunk it beneath the waters, afterwards putting together some rude barks, they made their escape to Mexico. (Alvaro, *Naufragios in Barcia Historiadores*, tom. ii. Vega, Florida. Bancroft, i. 41, &c.)

The wanderings of Alvaro had attracted the attention of the Spaniards to the regions immediately north of Mexico. A friar, Marco di Nizza, set out with a party to explore them, returned with a romantic account of a city, named Cevola, having 20,000 splendid houses, and its most common utensils of gold, silver, and the richest jewels. Mendoza, the viceroy, hoping to emulate the glory of Cortes, fitted out two large expeditions, one to proceed by land under Vasquez Coronado, the other by sea under Fernando Alarcon. Coronado, after a most arduous march through rugged and desolate mountains, reached the plain of Cevola, and, notwithstanding a most desperate resistance, forced an entry, but found a mere village of 400 houses, with nothing at all splendid; the jewels were only pebbles and rock-crystal. In hopes of achieving something, he marched 800 leagues to the coast, where he found a city of somewhat greater consequence, named Quivira, which cannot now be identified. Alarcon, unable even to join his associate, returned equally disappointed. Cabrillo, a Portuguese seaman, was then employed by Mendoza to explore the coast. He reached as high as 44° N. lat. but brought back a gloomy account of the aspect of the region, and the difficulties of navigating this northern sea. (*Rasmio*, vol. iii. p. 297, &c. *Venegas*, *California*.)

The zeal of Spain now slackened; but, in 1579, Drake, in his expedition round the world, traced the north-western coast as high as lat. 48°. There is a narrative by a Spaniard, named Juan de Fuca, who boasts that, in 1596, he reached a similar latitude; and his report, long discredited, has been confirmed, in a great measure, by the discovery of a strait closely answering his description, and now bearing his name. In 1596 and 1602 the Conde de Monterey employed Sebastian Viscayno, who did not, however, reach so far as Cabrillo. There is also a narrative by De Fonte, who boasted that, in 1640, he had reached the latitude of 58°, where he found numerous islands separated by narrow straits, which he named the Archipelago of St. Lazare, and within them a large lake named Belle. This account is generally branded as fictitious; yet we cannot but observe, that it strikingly agrees with the numerous chain of islands found by Vancouver in the same latitude, while Lake Belle may be the interior sea between them and the main. (*Torquemada*, *Monarquia Indiana*, book v. Murray *Descov. N. Amer.* vol. ii. p. 87, &c.)

The power of Spain having declined, she was unable to maintain the vast pretensions she had advanced in relation to Florida. Britain, now become a much more formidable maritime power, established colonies in Virginia and New England in defiance of Spain. In doing so, although there was not room for great discoveries, she acquired a far more accurate knowledge of this long range of coast. The expectation was still entertained that some of its openings might lead into the South Sea, and this was even viewed by the Virginia company as one of their leading objects. But the

laborious survey of Chesapeake Bay, by Smith, in 1608, nearly put an end to these hopes.

The British, however, made indefatigable efforts to discover a passage to India by the north. Sir Martin Frobisher, in 1576, found means to equip two slender barks of 25 tons for this arduous attempt. Passing the southern extremity of Greenland, he reached the coast north of Hudson's Strait; but, after sailing about for some time without perceiving any opening, and the season being advanced, he returned. One of the party brought home a shining black stone, which some ignorant persons pronounced an ore of gold. The utmost enthusiasm was thus kindled, and a larger expedition was easily fitted out next year. Frobisher then discovered the straits bearing his name, leading into Hudson's Bay; but he was arrested in them by the ice; he carried home, however, a store of the black stone. The hopes of the nation were higher than ever, and the queen sent him back with 15 ships, a strong fort in frame-work, and 100 men to form a colony. In approaching the place, however, he was attacked by so furious a tempest, with islands of ice driving against the vessels, that he had the utmost difficulty in saving and bringing them home. These disasters, and the discovery that the appearances of gold were illusory, caused a suspension of this series of enterprises.

In 1585, a number of leading merchants fitted out two vessels under John Davis. Steering farther N. than Frobisher, he crossed from Greenland the straits bearing his name, and came upon the American land in about 66° N. He sailed somewhat farther N., and surveyed different parts of the coast, but was obliged by the lateness of the season to return. His report, however, being favourable, he was sent out again next year. Though much retarded by the encounter of a huge field of ice, he reached his former station, and steered thence S.E. till he came to Labrador, having passed numerous islands, as appeared to him, but probably the coasts bordering on the sounds and inlets leading into Hudson's Bay. Being assailed by tempests, he returned to England, still giving such favourable hopes that, though many of the adventurers held back, Mr. Sanderson, his zealous patron, procured for him a smaller armament. He pushed to the yet unattained point of 72° 12' N. on West Greenland; thence he steered 40 leagues across, but was arrested by the fixed field of ice in the middle of the bay. He vainly attempted to round it, and was pushed southward to his former station on the American coast. He penetrated 60 leagues up Cumberland Strait; then being obliged to return, he observed, without entering, the entrance of Hudson's Bay. He returned home as sanguine as ever, but the perseverance of the merchants was exhausted.

The Muscovy and Levant companies, in 1602, sent out John Weymouth; but the mutinous spirit of his crew prevented his achieving anything. They employed, in 1606, John Knight, who was surprised and killed in Labrador by the natives. In 1607, Sir Dudley Digges, Sir John Westenholme, and other gentlemen fitted out Henry Hudson, a celebrated navigator, who had already made three arctic voyages. Though furnished only with one ship of 55 tons, he penetrated, after many difficulties, into the bay, or rather inland sea, which now bears his name. He surveyed a considerable extent of its eastern shore; but as November had arrived, was obliged to winter there. Much hardship being endured till spring, a mutiny arose among his crew, who exposed Hudson and his friends to perish on this inhospitable shore, and, with thinned numbers, made their way to Ireland.

Notwithstanding these melancholy circumstances, a great opening had thus been traced, and, in 1612, the Company sent out Sir Thomas Button, accompanied by Bylot, one of Hudson's companions. Sir Thomas having entered the bay, steered directly across through such an extent of open sea, as made him hope that he was now in the Pacific; when he suddenly saw himself arrested by a long line of coast, to which he gave the name of Hope Checked. He wintered in Nelson's River, sailed up Roe's Welcome, surveyed various points on Southampton Island, and returned to England. After a fruitless attempt by Gibbons, Bylot and Baffin were sent in 1615; but they were arrested by the eastern coast of Southampton Island. In 1616 they went to try the more patent route of Davis's Straits. They made then the complete circuit of that great inland sea, which has since been named Baffin's Bay; but returned with the conviction that it was enclosed by land on every side, and afforded no hope of a passage. The search in this direction was discontinued; but, in 1681, Fox was sent out by the king, and James by the Bristol merchants, to try again the route of Hudson's Bay. Fox, after vainly attempting a western route, sailed up the channel bearing his name, the most direct route to the strait of the Fury and Hecla, but stopped much short of that point. James stood to the southward, and being entangled in the eastern coasts of the gulph, was obliged to winter there, where his crew suffered the utmost extremity of cold.

The north-western coast of America, notwithstanding the Spanish discoveries, remained still almost unknown. But after Russia had overrun Siberia, and reached the shores of the eastern ocean, her active rulers felt an interest respecting the opposite continent. It was even doubted, whether it was separated from that of Asia; but this, in 1728, was nearly ascertained by Behring, who reached the eastern extremity of the latter continent, on the straits which bear his name. He saw the land thence stretching NW., but did not discover any part of America. A few years after, Krmpishel, a Kossac, from Kamtschatka, descried, and sailed along it for two days. In 1741, Behring and Tchirikoff were sent thither to make a careful survey. They were separated: the former reached the coast, and landed about the latitude of 58°. He could not accomplish his object of surveying it to 65°, and being obliged to winter on one of the Aleutian islands, suffered severe hardships, to which he fell a sacrifice. Tchirikoff came in view of it in about lat. 55°; but being unable to land, and having lost two boats in attempting to communicate with the natives, he returned to Kamtschatka. On this voyage the Russians found their claims to the American coast N. of 55°; and their traders soon established along it a chain of settlements with a view to collecting furs and skins of the sea-otter. (Purchas, iii. 596, 716. Narratives of Fox and James Barrow's Arctic Voyages.)

Capt. Cook employed his last voyage in examining the north-west boundaries of America, and in attempting to effect a north-west passage. He traced the coast from 50° northwards, till he came to Cape Prince of Wales, the western limit of the continent: then steered north-east till, in about 70°, he was arrested by an unbroken chain of ice islands. He returned, naming the adjacent promontory Icy Cape; and King and Clerke next season in vain attempted to penetrate further. The information obtained in this voyage induced many English ships to resort to this coast with a view to the capture of the sea-otter, for whose rich skin there is a regular demand in the China mar-

ket. Dixon and Meares, in this pursuit, explored Nootka and the adjacent coasts. The Spaniards attempted to oppose this trade, and even captured the Argonaut, a British vessel; but were obliged to withdraw their opposition. They now sent several expeditions, particularly one under Ayala and Maurelle; but these could make no discovery which had not been anticipated. In 1791-2, Vancouver was employed in making a careful survey of these coasts, in the hope of finding a passage into the Atlantic, through one of their numerous bays; but this he proved to be impracticable. Broughton, under his direction, ascended the Columbia for about 90 miles. Capt. Gray, employed by the United States, had before been at its mouth, and given it its name; but he is said never to have entered the actual channel of the river.

Meantime some straggling attempts after the passage were made from the Atlantic. In 1668, the Hudson's Bay Company was formed, and undertook to make exertions for this object. There is however no record of any till 1721, when Knight, governor of one of their forts, prevailed on them to supply him with the materials for a voyage. Unfortunately, being obliged to winter on Marble Island, he and his whole crew fell a sacrifice to sickness and famine. In 1741, Mr. Dobbs, a gentleman of influence, and imbued with the most ardent zeal on this subject, prevailed on the Admiralty to send out Capt. Middleton with the Furnace bomb-ketch. That officer, in 1742, sailed to the head of Sir Thomas Roe's Welcome, where he found on one side Repulse Bay, on the other a frozen strait between Southampton Island and the mainland. Having also looked up Wager Inlet, he pronounced a passage in this direction impossible. Dobbs and others loudly accused him of carelessness and even treachery, and kindled such a spirit that 10,000*l.* was raised by subscription, and parliament voted a bounty of 20,000*l.* to the subscribers in the event of their success. Two vessels were sent out under Captains Morr and Smith, who however merely examined the Wager Inlet, ascertaining that there was no passage, and then returned.

Maritime expeditions were now suspended, but some important discoveries were made by land. Ever since Baffin's last voyage, the impression had prevailed that North America stretched indefinitely towards the pole. But in 1769, Mr. Hearne, sent by the Hudson's Bay Company, descended Coppermine River, and found it to terminate in a sea at about 65° N. lat. In 1789, Sir Alexander Mackenzie, an agent of the North West Fur Company, descended, much farther westward, the great river bearing his name, and came to what he termed a lake, but which, from its having tides and containing whales, was very decidedly judged to be also a sea. There was thus found great room to suppose that, in a latitude between 60° and 70°, America was bounded by a great Arctic ocean: while from these observations combined with those of Cook, the estimate of its breadth was greatly enlarged.

These considerations produced little influence, till, after the peace of 1815, when the energies called forth during the late war sought a different direction. Sir John Barrow proved that the impression against the existence of a passage, derived from former failures, rested on very slight grounds. Under his auspices, Capt. Ross was sent out in 1818, with the Isabella and Alexander, to make a more full trial in Baffin's Bay. He sailed entirely round it, but returned decidedly reporting that navigator's opinion to be correct, and that it afforded no western passage. Lieut. Parry of the *Alexander*, however, and other

officers, were of opinion that the spacious opening of Lancaster Sound had been quitted without due examination, and afforded a favourable promise. He was therefore sent out next year, and though he did not reach the sound till August, found all his expectations fulfilled. The ships, during the first day after entering the sound, had an unobstructed run of upwards of a hundred miles. After sailing a little farther, he was arrested by ice, and obliged to turn southward along the eastern shore of Prince Regent's Inlet. Being arrested there, he returned northwards, and was gratified to find the passage to the west become quite clear. He ran along it to beyond 110° W. long., thus entitling the crew to a royal bounty of 5,000*l*. He was then obliged to make arrangements for spending the winter, during which, notwithstanding the most rigorous cold, the health and spirits of the crew were surprisingly preserved. He was defeated in his attempt next year to penetrate further west, and obliged to return.

Capt. Parry was again sent out the following year; but it was now resolved to try the channel by the northern head of Hudson's Bay, which Middleton was considered as having by no means completely explored. He found no reason to doubt the accuracy of that navigator; but by pushing up the Fox Channel, he arrived at a strait, named after his vessels the *Fury* and *Hecla*, which was ascertained to afford a passage into the Polar sea. It was so blocked up with ice, however, that his utmost efforts, during two successive seasons, could not force a passage. Having returned to England, he was sent out a third time, in 1824, to endeavour to penetrate through Prince Regent's Inlet into the open sea, of which he had now fully ascertained the existence. The season, however, being peculiarly rigorous, it was not till next summer that he reached the western coast; and the *Fury*, being then squeezed between two masses of ice, sustained so severe an injury, that it became necessary to abandon her, and give up all attempts to proceed farther.

Other means were at the same time resorted to for exploring the northern boundary of America. Lieut. Franklin and Dr. Richardson undertook to proceed to the mouth of the Coppermine River, and thence attempt to trace the whole coast, from the strait of the *Fury* and *Hecla* to the Icy Cape of Cook. They sailed from England in May, 1820; were obliged to winter on the Athabasca Lake, and in July, 1821, embarked on the Arctic Ocean. They turned to the eastward, but were forced to take a very circuitous course through deep sounds and inlets, particularly the great one named Coronation Gulf. Hence, on reaching Point Turnagain, in $109^{\circ} 25'$ W. long., though the sea continued open, they found it necessary to return, from the exhausted state of the equipment. The party, being obliged to travel by land over a range of naked territory broken by lakes and rivers, endured the utmost extremes of human misery, and several perished before they could reach Fort Enterprise on the Coppermine. They returned, however, with unbroken spirits and determination, and government liberally furnished the means of renewing their efforts. At the same time, Capt. Beechey was sent by way of the Pacific Ocean to follow in the steps of Cook, and meet them from the westward. Franklin's new expedition set sail in 1825, wintered on Great Bear Lake, and early next year were at the mouth of the Mackenzie, whence they now proposed to begin their survey. From this point Capt. Franklin proceeded W.; Dr. Richardson E. The former explored a considerable extent of coast bordered by ranges of the Rocky Mountains; but, after passing Foggy Island, in long.

147° W., the obstacles became so serious as made it necessary to turn back. Meantime, however, Capt. Beechey had passed Behring's Straits; and, though the ship could not be navigated beyond the Icy Cape of Cook, Mr. Elson, in a boat, reached $156^{\circ} 21'$ W. long., where a cape stretched into lat. $71^{\circ} 28'$ N. The expeditions were thus within 9 short deg. of long. from each other; of which had they been aware, they would at every cost have pushed through. Dr. Richardson succeeded in exploring the whole coast between the Mackenzie and the Coppermine, connecting his discoveries with those of the former voyage, and leaving unknown only two comparatively small portions between Franklin's extreme points and those reached by Beechey on one side, and Parry on the other.

Capt. Ross, regretting the mistake by which he had failed to discover the entrance into the Polar Sea, anxiously sought the means of retrieving this error. These were furnished by a public-spirited friend, Sir Felix Booth, and the resources of steam navigation were called forth. They were not of much avail; but Capt. Ross, through many difficulties, made his way into Prince Regent's Inlet, and reached considerably farther than Parry on its eastern limit. He thrice wintered there, and explored a great extent of the adjacent coasts. He found himself on what appeared a peninsula, named Boothia, reaching to 74° N. lat., and connected with the continent by a narrow isthmus. A considerable extent of the American coast to the westward was also explored, but without reaching Franklin's Turnagain. Commander Ross is considered as having ascertained the site of the magnetic pole on the western coast of Boothia. Capt. Ross, in attempting to reach home, was obliged to spend another winter near the northern point of the peninsula. His arrival, in 1833, occasioned a joyful surprise, as the most melancholy forebodings had prevailed as to his fate.

During the alarm felt at his long absence, an expedition to discover and release him was fitted out, partly by government and partly by private subscription. It was entrusted to Capt. Back, a companion of Franklin, with the hope that he might also make some further discoveries. Having left England in February, 1833, he wintered at the eastern end of Great Slave Lake, and next summer descended a river named the Thlew-echop. It terminated in a spacious bay, at the end of which the coasts appeared to stretch, one S.E., the other due W. From Cape Ogle, where this last direction began, was seen on the E. an apparently boundless expanse of sea. By the observations then made it appeared probable, that Boothia did not form part of the American continent; but was connected with a more southerly peninsula which, along with it, formed one great island.

In 1838, the Hudson's Bay Company determined to explore what was yet unknown in their own territory. Under the direction of Mr. Simpson, the resident governor, Messrs. Dease and Simpson, in the summer of 1837, went over the intermediate space between the points reached by Franklin and Beechey. It was found to run in a nearly direct line, presenting no remarkable feature except the efflux of two large rivers. The same gentlemen were employed, in 1838, to explore from Cape Turnagain to the strait of the *Fury* and *Hecla*; a more difficult task.

The first important steps in the discovery of the interior of N. America were made by the French from Canada, under the government of Count Frontenac. Under his auspices, Ioylet and Father Marquette, in two Indian bark canoes, undertook to explore the vast regions on the Mississippi. Lake Michigan then formed the extreme boundary

of European knowledge. From it, ascending the Fox river, and descending the Onisconsin, they reached the central stream, and were astonished at its grandeur, and the majestic forests on its banks. In proceeding downwards, the first people they met were the Illinois, who received them hospitably. Afterwards they were struck by the influx of the mighty stream, deeply tinged with mud, of the Missouri (named by them Peketanani). Under the name of Ouabiskgou, they describe the united stream of the Wobash and Ohio. They came next to the Akansas (at the mouth of the Arkansas), but perceiving now that the river must terminate, not, as had been supposed, in the Gulph of California, but in that of Mexico, they were afraid of the Spaniards, and returned.

When the two travellers arrived at Quebec, there happened to be in that city an enterprising young Frenchman, of some birth and fortune, named *Sieur de la Salle*, who conceived an enthusiastic desire to prosecute this career of discovery. Through influence at court, he procured ample means. After some time spent in erecting forts upon the lakes, he reached the Mississippi by a new route, ascending the Miami and descending the Illinois. On reaching the Arkansas, he hesitated not to prosecute his voyage, and passed along the territory of the Taencas, Natches, and Quinipiseas. Soon after, by the vast breadth to which the waters expanded, their brackish taste, and the shells on the shore, he discovered, with exultation, that he was at the mouth of the Mississippi. He hastened back by the same route to Canada, and thence to France, where he was received with the highest distinction, created governor of the region he had traversed, and sent out with four ships and 280 men. He went by the W. Indies; but unfortunately he could not distinguish the entrance of the river, and, while searching for it, a mutiny arose among his men, in which he was killed.

About this time Hennepin also attempted to reach the source of the Mississippi; but, after passing the Falls of St. Anthony, he was taken prisoner by the Indians, detained long in captivity, and thought himself happy in making his escape. Some time after, Baron Lahontan reported his having ascended a great tributary, which he calls Long, but which appears to be the St. Peter's. He met some members of a distant tribe, who described a chain of high mountains lying to the westward, beyond which was a great salt lake, a term which the Indians often apply to the sea. These correct statements seem to absolve the baron's reports from the suspicion of fiction, which has been sometimes attached to them.

The English colonies on the Atlantic had made a great advance in population and wealth, before they attempted to penetrate across the Alleghany. An opinion had indeed long prevailed, that this range formed an insurmountable barrier. In 1714, however, Spottiswoode, governor of Virginia, sent a party, who made their way into the western territory. It was still some time before the colonists made any attempts to settle there, and when they did, they were vigorously opposed by the French, who, in virtue of the settlement of Canada and the discovery of the Mississippi, claimed the whole region. They drove out a company who attempted an establishment on the Ohio, and erected, on the present site of Pittsburg, Fort Duquesne, which struck a general alarm through the provinces. The conquest of Canada, and the peace of Paris, in 1763, removed this opposition. Still the settlement was made, not by any combined or official movement, but by Boone, and other daring adventurers, who main-

tained a series of bloody struggles with the natives, by whom the English were kept in perpetual alarm. It was not till some years after the war of independence, that Kentucky was received into the union, and that the great tide of emigration began, which has covered the valley of the Mississippi with so many populous and flourishing states.

The Americans having in 1804 purchased Louisiana from Napoleon, claimed under that vague title the whole region to and beyond the Mississippi, and commenced operations for exploring that vast territory. An expedition was arranged by Mr. Jefferson, then president, and was led by Captains Lewis and Clarke, the former of whom was his private secretary. On the 16th May, 1804, they began their voyage on the Missouri. Having ascended 1,600 miles, and reached the foot of the Rocky Mountains, they found the season too far advanced for crossing that great chain. They, therefore, built a fort named Mandan, where they spent the winter. Early in April, they were again in movement, and in nineteen days came to the influx of the Yellowstone, almost equal to the main stream. Having reached the crest of the great rocky chain, the travellers descended rapidly, though not without difficulties, from the ruggedness of the road and the want of provisions. They at length, however, embarked on the southern branch of the Columbia, which they named Lewis, and after passing its falls saw it spread into a wide channel, and ultimately open into a bay, where they exultingly heard the sound of breakers from the Pacific. They wintered at the mouth of the river, and hastened back by the same route in the following spring. They were not, however, the first who had crossed the entire breadth of the continent. This had been effected in 1792 by Sir Alexander M'Kenzie, in a more northerly quarter; and in 1803, the agents of the Montreal Company had crossed the mountains, and formed trading posts on the northern branches of the Columbia. (Journal of D. W. Harmon, Andover, 1820.)

The American government sent, in 1805, another expedition under Major Pike, to trace the yet unknown head of the Mississippi. It was found in a direction almost due north, not rising from any great natural range, but in a flat marshy region, and passing through a number of little lakes, the chief of which, named Leech and Red Cedar, contend for the honour of giving birth to this leading American water. Its length, too, proved to be at the mutual junction little less than half the Missouri, which therefore ought properly to rank as the main stream. Pike, on his return, was sent to explore the course and origin of the Arkansas and Red Rivers. The former he found very broad, flowing through a country richly stocked with game, and having its source in the Rocky Mountains. He first conveyed an idea of the loftiness of that chain, which he compared, though with exaggeration, to the Cordilleras. He attempted then to descend the Red River, but entered by mistake on the Rio del Norte, and proceeding into the Mexican territory was made prisoner by the Spaniards, but well treated and soon released. About the same time, Mr. Dunbar and Dr. Hunter, from Natches, sailed to a considerable height up the Red River and its tributary the Washita, surveying the fertile country on their banks.

After a long suspension, the American government, in 1819, recommenced this career. Major Long and Dr. James were sent to explore more precisely the western territory southward of the Missouri. They discovered with regret that a

great sandy desert extends for a breadth of about 400 miles eastward from the Rocky Mountains. That chain was carefully examined, and its highest peak found not much to exceed 12,000 feet. Seeking to descend the Red River, by a fresh fatality they mistook for it the Canadian, the longest tributary of the Arkansas, by whose channel they regained the Mississippi. Meantime General Cass was employed in a more careful examination of this last river, tracing in his way the southern shore of Lake Superior. Major Long, on his return, ascended St. Peter's River, already visited by Lahontan and Carver. He found, rising from continuous sources, the northern Red River, which flows into the British territory, and ends in Lake Winnipeg. These successive expeditions conveyed to the United States government a pretty correct idea of the interior of their vast territory, including those parts of the continent which had hitherto been most imperfectly known. Arctic enterprise, which had remained dormant for six years between 1839 and 1845, revived with energy in the latter year, when Sir John Franklin started upon his expedition. His directions were to proceed through Lancaster Sound and Barrow's Strait to Cape Walker, and thence south-west to Behring's Strait, a distance of about 900 miles; or, if he found this route impracticable, he was to go up Wellington Channel. The Erebus and Terror were seen for the last time in July, 1845, two months after their departure from England. For three years the government at home was occupied only in speculations respecting their protracted absence, and plans of relief; but in 1848, expeditions of search were sent out, with one of which sailed Sir John Richardson and Dr. Rae; whilst another was commanded by Sir James Ross. Sir James Ross's squadron returned in 1849, without having succeeded in getting to the west of Leopold Island; and in 1855, the ships *Enterprise* and *Investigator* again sailed, the former under the command of Captain Collinson, and the latter under the command of Captain McClure. The object of this expedition was to search the northern coast of America, and the western coasts of Wollaston and Banks' Land, Melville Island, Victoria Land, and the passage between. Its memorable result was the discovery of the North-west passage. Having passed through Behring Strait, Captain McClure proceeded, according to his instructions, along the northern coast of America to Cape Parry; then sailed N.E. and discovered Prince of Wales's Strait, Baring Land, and Princess Royal Islands. Upon the 26th of October, 1850, whilst the *Investigator* lay in this strait, Captain McClure, having undertaken an exploring excursion on land, saw, from a hill, the frozen waters of Melville Strait lying away to the north. From the distance his eye commanded, it was clear that no land could intervene between them and Melville Island, so that there was nothing to obstruct the passage into the Atlantic. Thus, at last, the North-west passage was found! After wintering in the Strait, he found it advisable to retrace his steps to Baring Land, and steer round the west of Banks' Land on his homeward track. His return voyage was one of disaster and peril, and the ship was lost; but at length, in 1854, he reached the shores of England by a route which satisfactorily settled the question which had been perplexing English seamen for nearly three hundred years. Captain Collinson, of the *'Enterprise'*, returned to England in May, 1855, having established the fact of the connection of Victoria, Prince Albert, and Wollaston Lands, and bringing with him some fragments, supposed to have belonged to the *Erebus* and *Terror*. In both

these discoveries, however, he had been forestalled by Dr. Rae, who had been sent out in 1853, to complete surveys of Boothia, and other points. Between the years 1850, and 1857, numerous expeditions were sent out, amongst others a second American expedition, under Dr. Karre, which resulted in the discovery, by him, of the great 'Humboldt Glazier,' and the supposed discovery of an open Polar Sea. In 1857 the search was commenced, which was destined at last to put at rest the hopes and fears respecting Sir John Franklin's fate. In the summer of that year, Captain McClintock sailed in the *Fox* for the Arctic Seas. The results obtained by this expedition were of the most convincing kind, not only as determining the unhappy end of Franklin's enterprise, but as proving, from the route through which he was traced, that he, after all, is entitled to the honour of being the earliest discoverer of the North-west passage. Captain McClintock's voyage has also furnished considerable geographical information. He has laid down the coast-line of Boothia, from Bellot Strait to the Magnetic Pole, delineated King William's Island, and opened a new channel from Victoria Strait to Melville or Parry Sound. He also achieved the navigation of Bellot Strait. Since Captain McClintock's return, Mr. Hall, of Cincinnati, started on a renewed search for the *Erebus* and *Terror*. Two other expeditions from America departed in the course of the years 1860-61, to attempt the voyage to the Pole. In England, the project of a new North Polar expedition is at present (1865) under discussion, opinions being divided as to the Smith Sound or Spitzbergen routes.

In British North America, Mr. Palliser's surveying expedition, which was finished in 1860, has disclosed, between the southern end of Lake Winnipeg and the base of the Rocky Mountains a fertile tract of land admirably fitted for colonisation. An expedition despatched by the Canadian government, under the charge of Professor Hind, has also made important investigations in the country west of Lake Superior, giving good ground for the belief that the Basin of Lake Winnipeg will one day have 'a great future.'

In Central America, surveys have been undertaken for an Inter-oceanic Railway across Honduras, and in South America the vast project has been started of a railway over the Chilean Andes, from Copiapo, across the Argentine provinces, to Rosario on the Parana.

AMERKOTE, a town and fort of India, territory of Sind, in the desert, 85 m. E. Hyderabad; lat. 25° 20' N., long. 69° 49' E. The emperor Acbar was born here in 1541.

AMERSFORT, a town of the Netherlands, prov. Utrecht, on the Eem, which becomes navigable at this point, 12 m. ENE. Utrecht. Pop. 12,700 in 1861. It is well built and well fortified; has a court of original jurisdiction, a college, a commission of agriculture, with manufactures of fustians, dimities, and bombazeens. It is the mart for the corn and tobacco cultivated in the contiguous territory; and has a considerable transit trade in produce from Germany, embarked here in flat-bottomed boats from Amsterdam. The distinguished statesman and grand pensionary, Barneveldt, sacrificed in 1617 to the fanaticism of the people and the hatred of Prince Maurice, was a native of Amersfort.

AMERSHAM, a bor. and pa. of England, county Buckingham, near the Colne, 26 m. WNW. London. Pop. of parish, 8,550 in 1861. The town consists of one long street, crossed by a shorter one, having the church at the point of intersection. There is a free-school, to which are

attached three exhibitions at Corpus Christi college, Oxford, with almshouses and three charities. A good deal of black lace is manufactured, and the market is well attended. Previously to the Reform Act, by which it was disfranchised, this borough sent two members to the H. of C., the right of voting being in the inhabitants paying *scot and lot*; but these being all tenants of the lord of the manor, it was in fact a nomination borough.

AMESBURY, or **AMBRESBURY**, a m. town and par. of England, co. Wilts. The town is situated on the Avon, $\frac{7}{8}$ m. N. Salisbury. Though inconsiderable, it is noted for the ruins of an abbey, the vicinity of Stonehenge, and for having been the birth-place of Addison. The parish comprises 6,060 acres, with a pop. of 1,188 in 1861.

AMHARA, a division of Abyssinia, which see.

AMHERST, a sea-port town of the Brit. prov. of Martaban, India beyond the Ganges, and the chief British military and commercial station in the provinces E. the Than-Iweng river, on a point of land in the N.E. angle of the Gulph of Martaban, facing the mouth of the Than-Iweng and the Isle of Balu to the N. Lat. $16^{\circ} 4' 48''$ N., long. $97^{\circ} 35' 24''$ E. Estimated pop. 5,000. Amherst was founded in 1826, after the restoration of the town of Martaban to the Birmeese, in the view of serving as a military post, and a commercial establishment, and as an asylum for such refugees as might choose to emigrate from the Birmeese dominions. The apex of the promontory, which is the highest spot in the town, is occupied by the church, governor's house, court of justice, fortifications and other public buildings; on the higher ground around it are the European and Chinese quarters; and the lowest are by choice inhabited by the natives. The military cantonments are about $\frac{1}{4}$ m. distant, in a dry, level, and elevated spot. The harbour is spacious and secure, with 3 fath. water at low neap tides; rise and fall above 19 ft., with a flow of 6 m. an hour, and perfectly still for 2 hours both before and after high water. Ships may lie within 100 yards of the shore. Mangrove and a kind of oak are abundant here, and there are teak forests at no great distance. Good water is found everywhere 6 feet below the surface.

AMHERST, a town of the U. States, Hampshire, co. Massachusetts, 82 m. W. Boston. Pop. 3,052 in 1860. A college was established here in 1821, which has an observatory and a good cabinet. Amherst is the name of some other places in the U. States.

AMHERSTBURGH, a small town of Upper Canada, on Detroit R., 3 m. above its embouchure in Lake Erie, and 14 m. below Detroit. It was founded during the administration of Lord Amherst, and was named after his lordship.

AMIENS (an. *Samarobria*), a city of France, cap. dep. Somme, on the river of that name, 72 m. N. Paris, on the Great Northern of France railway. Pop. 58,780 in 1861. Amiens has a citadel constructed by Henry IV. It is well built; streets for the most part straight and clean; and it has some fine squares and promenades. The old Gothic cathedral, in excellent preservation, is one of the finest in Europe. It is 366 ft. in length and 132 in height. Among the other public buildings may be specified, the Royal College, theatre, Hôtel de Ville, corn-market, courts of justice, barracks, seminary of St. Acheul, and château d'Eu. It is the seat of a bishop, has a *cour Impériale*, a court of assizes, a commercial tribunal, a custom-house, a public library containing above 40,000 vols., an academy, an academy of sciences and belles-lettres, a free school of design, and a bo-

tanical garden, &c. Manufactures very considerable. They consist principally of kerseymeres, cassimeres, merinoes, and serges, made partly of home, and partly of German and Spanish wool. The linen trade is also considerable; but it is now surpassed by that of cotton. There are annually produced about 60,000 pieces of cotton velvet, the aggregate value of which is estimated at about 8,000,000 fr.; and about 400 looms are occupied in the production of velvets *dites d'Utrecht*. There are also several mills for the spinning of cotton and flax; with dye and bleach-works; manufactures of machinery, beet-root sugar, and chemical products; tanneries, soap-works, and paper-mills. The *pâtes de canard* made here are highly esteemed. Flat-bottomed vessels, drawing from 40 to 60 tons, come up the river to the town, which is the centre of a very considerable trade, as well in its own productions as in those of the surrounding country. Amiens is very ancient, being supposed to have existed anterior to the invasion of Belgium by the Romans. It is known in diplomatic history from the circumstance of a definitive treaty of peace between England and the French republic having been signed in it on the 25th March, 1802. It is the birth-place of Peter the Hermit, the apostle of the first crusade; of Ducange, author of the *Glossarium ad Scriptores mediæ et infimæ Latinitatis*, a work of wonderful research and labour; and of Delambre, the learned author of the most accurate though not the most eloquent history of astronomy.

AMJHERRA, a small Rajpoot state of N. India, Malwa, 46 m. WSW. Indur. Area 584 sq. m. Pop. about 58,000. Maize, cotton, sugarcane, and grain, are the chief products. There is a town of the same name 60 m. NW. Oojein, containing about 500 houses, and large and well supplied bazaars.

AMLWCH, a sea-port town of N. Wales, N. shore of the Island of Anglesea, at the terminus of a branch line of the Chester and Holyhead railway. Pop. 5,949 in 1861. The town rose from the state of an inconsiderable fishing village in consequence of the discovery of the famous copper mines in the adjoining Pary's Mountain in 1769. It has a pretty good port, excavated from the solid rock. During the flourishing period of the mines, they produced above 3,000 tons a year of pure metal; but they have been gradually declining for several years. Amlwch is united with Beaumaris, Holyhead, and Llangefni, in returning a member to the H. of C.

AMMAN (the *Rabbah* of the Scriptures, and *Philadelpia* of the Greeks), a city of Syria E. of the Jordan, deserted and in ruins; lat. $32^{\circ} 8' N.$, long. $36^{\circ} 8' E.$; 25 m. NE. Dead Sea, and 30 m. E. Richa (an. *Jericho*).

The remains of Amman are very extensive, but none of them seem to be older than the era of the Greek power in Syria. They consist of theatres, temples, and colonnades, of great beauty and high finish, some of them being in very perfect preservation. A great number of private houses still remain, but there is not a single inhabitant.

This is one of the most ancient cities mentioned in Jewish history. It was the capital of the Ammonites, a people undisturbed by the Israelitish settlement in Palestine, and with whom the Jews lived in a state of suspicious truce till the æra of Jephthah, about 1161 B.C. Thenceforward the two nations were in almost constant hostility, generally to the disadvantage of the Ammonites; and in 1035 B.C. David took their capital. But notwithstanding this untoward event, and the unsuccessful war they waged against Jehoshaphat, (B.C. 896), and Jotham (B.C. 760), they continued

to be a powerful people, and about 600 years B. C. supplied Nebuchadnezzar with a strong auxiliary force to assist in the destruction of their old enemies. Amman was subsequently included in the Assyrian and Persian empires; and after the battle of Issus (B. C. 333), it passed, with the rest of Syria and Palestine, into the hands of the Greeks. In 218 B. C. Palestine was the scene of war between Antiochus the Great and Ptolemy Philopater; the former of whom utterly destroyed Amman. Having been rebuilt by Ptolemy Philadelphus, it received from him its Greek appellation of Philadelphia. It became a Roman town in the last century B. C., and remained such till the conquest of Palestine by the Saracens, A. D., 638. Under the Christian emperors of the East, Amman appears to have been a bishop's see, but it was declining before its capture by the Arabs, and Abul-Feda, in the early part of the 14th century, describes it as already deserted.

The ruins of Amman stand on the banks of a brook, which issuing from a large pond at the SW. corner of the town, flows (partly under ground) over a stony bed into the Zerka (an. *Jabbok*) an affluent of the Jordan. The water of this stream is excellent, a circumstance which renders the spot a desirable halting-place for caravans, the drivers of which use the ancient temples and buildings as shelter for their beasts, fulfilling, it is supposed by some students of prophecy, the denunciation of Ezekiel, 'I will make Rabbah of the Ammonites a stable for camels and a couching-place for flocks.' (Numbers to Chronicles, *passim*; Polybius, lib. v. cap. 5 and 6.; Robinson, ii. 172-175.)

AMMERSCHWIHR, or *Marivillier*, a town of France, dep. Haut Rhin, 4 m. NW. Colmar. Pop. 2,086 in 1861. Excellent wine is grown in the neighbourhood.

AMOL, a city of Persia, prov. Mazunderan, on the Heraz, about 12 m. above where it falls into the southern part of the Caspian Sea; lat 36° 30' N., long. 52° 28' 55" E. Pop. differs at different seasons; but in winter, when greatest, is estimated by Mr. Frazer at from 35,000 to 40,000. The principal object worth notice is a mausoleum erected by Shah Abbas over the remains of a former distinguished sovereign of Saree and Amol, who died in 1578. This magnificent structure has, however, been injured by an earthquake, and is rapidly decaying. There is a bridge of 12 arches over the Heraz, and there are in the vicinity of the town many mounds and other remains of Persian antiquities. The bazaars are extensive, and well supplied with certain articles; but it has little trade or industry. Mr. Frazer could not find tea either here or at Balfroosh, and the inhabitants had never heard of coffee. *Chillaw* and *mas*, that is plain boiled rice and sour curds, is the common food of the people, some of whom season it with a little salt fish. (Fraser's Southern Banks of the Caspian Sea, p. 101.)

AMOR, or AMUR, a large river of E. Asia, which has its sources in Mongolia. It is formed by the junction of two great rivers, the Onon or Chilka, which rises nearly under the 110 deg. of E. long. and the 50 deg. of N. lat., and the Keroulun or Argoun, which rises nearly under the same meridian, but about 2½ deg. more to the S. The latter river traverses the great lake of Koulon, and, issuing from it, and pursuing a NE. course, forms, or recently formed, for a considerable distance, the line of demarcation between the Russian and Chinese empires. The Keroulun and Onon unite near the fort of Ruklanova, in about the 120th deg. E. long. The combined river having taken the name of Amoor, flows E. and SE., till, at its most S. point, it is joined by its large tributary, the Soon-

gari, flowing NE.: the Amoor, having suddenly taken the same direction, preserves it during the remainder of its course, till it falls into the arm of the sea opposite the N. end of the island of Saghalien, or Tchoka, in about the 58d deg. of lat. and the 140th deg. of long. The entire course of the river, to the source of the Keroulun, reckoned the principal branch, is estimated, inclusive of its windings, at 2,641 m. It is navigable by steamers from June to November, when it is free of ice, to a distance of 2,200 m. from the sea. In the lower part of its course it flows through a comparatively rich, well-cultivated country; but the country round its sources, and the upper part of its course W. of the Kingan Yalo mountains, being contiguous to the great desert of Shamo or Gobi, has the same characteristics. The Russian fort of Nertachinsk stands on the Nertscha, near where it falls into the Chilka. In 1854, a Russian expedition went down the Amoor, planting a number of posts, and securing to Russia possession of the course of the river to the sea, and the whole country to the north. In 1861 the Russians also acquired, by treaty with China, all the region east of the lower Amoor and the river Ussuri, an affluent from the south, which joins the Amoor in lat. 34° 40' N., giving to Russia the sea coast as far south as Cape Sisdro, in the Sea of Japan. The Russian territory is divided into the prov. of the Amoor (cap. Blagoveschensk), area 718,500 sq. m., pop. 40,000, and the maritime prov. of E. Siberia, separated by the Kingan mountains. The country is as yet very sparsely inhabited. The chief places on the recently acquired coast, counting from S. to N., are—Victoria Bay, or Peter the Great Gulph; Port Seymour, or Oglia Bay; and Vladimir Bay, in the Sea of Japan; Constantinovsk, or Port Imperial, on Barracouta harbour; Alexandrovsk, on Castries Bay, near the mouth of the river; and Nicolaievsk, at the mouth of the river, in the Gulph of Tartary. The trading places in the interior are mostly on the banks of the Amoor. The Russians have also the port of Dui, in the island of Saghalien, and coal is found in the neighbourhood. Within the last few years a considerable trade has grown up along the shores of the Amoor. In the year 1864 there arrived 9 foreign ships at Nicolaievsk, namely—3 American, 2 German, and 4 Danish. In 1864 a Russian government steamer opened the navigation of the Poongari, ascending a distance of upwards of 600 miles, as far as the Chinese town of Guirine, a most populous place, estimated to contain above 100,000 inhabitants. The Russian naval force in the Amoor river was composed, in 1864, of 6 corvettes, mounting 11 guns each; 7 schooners, each of them with 6 guns; and 11 steam transports, with a total of 37 guns. (Consular Reports; Ravenstein, E.G.; The Russians on the Amur, Lond. 1861.)

AMORGO (an. *Amorgos*), an island of the Grecian Archipelago, about 36 m. in circumference, lying SE. from Naxia, in about 36° 50' N. lat., and under the 26th deg. of E. long. Pop. estimated at between 2,000 and 3,000. It is in part mountainous and rocky; but, in antiquity, it was noted for its fertility, and is still well cultivated, producing more corn and wine than the inhabitants can consume. It contains a town of the same name. Port St. Anna, on the N. shore of the island, is an excellent harbour, with good anchoring ground in from 18 to 20 fathoms. Simonides, famous in antiquity for his iambics, was a native of Amorgos.

AMOUR (ST.), a town of France, dep. Jura, cap. cant. 9 m. SW. Lons-le-Saulhier. Pop. 2,343 in 1861. It has a forge, a nail work, a considerable marble work, and tanneries

AMOY, a sea-port town of China, prov. Fokien, with a commodious and secure harbour; lat. $24^{\circ} 10' N.$, long. $118^{\circ} 10' E.$ It is one of the ports now open to foreign trade in China. Though situated in one of the least fertile districts of the empire, the merchants of Amoy carry on a very extensive intercourse with Formosa, whence they import provisions, with the other Chinese ports to the N. and S., and with Siam, Java, Singapore, the Soo-loo islands, &c. Exports to foreign countries, tea, and silk; imports, rice, sugar, camphor, &c. In 1862 the number of British vessels entering the port was—steamers 126; sailing vessels 97; total tonnage, 83,319. The number of foreign vessels, other than British, was 261; tonnage, 70,598. The estimated value of the exports in British vessels, in Spanish dollars, was 2,092,048 (396,220*l.*); imports, in Spanish dollars, 8,591,921. There had been a very great decrease in the trade as compared with 1860 and 1861, owing chiefly to the heavy exactions levied by local authorities. (Consular Reports.)

AMPFING, a village of Bavaria, 6 m. W. by N. Muhlthof. A great battle was fought in the vicinity of this village, on the 28th September, 1822, between Louis, duke of Bavaria, emperor of Germany, and Frederick, archduke of Austria, when the latter was entirely defeated and made prisoner. (Pfeffel, anno 1822.) It was from this point also that Moreau commenced his famous retreat in 1800.

AMPLEPUIS, a town of France, dep. Rhone, 19 m. WSW. Villefranche. Pop. 5,311 in 1861. It has manufactures of linen and cotton, particularly the latter.

AMPTHILL, a m. town and p. of England, co. Bedford, h. Redbornstoke, 45½ m. NW. London. Pop. 2,011 in 1861. It is neatly built, has a charity school for 18 poor children, and an hospital for 10 poor men and women. Ampthill Park, a magnificent mansion, the property of Lord Holland, is situated a little to the W. of the town.

AMPURIAS, a town and castle of Spain, NE. part of Catalonia, on the Llobregat, near the sea, 24 m. NE. Gerona. Pop. 2,500 in 1857.

AMRAN, a walled city of Arabia, in the Dsjebel, or mountain land of Yemen, being the chief town of a district of the same name; lat. $15^{\circ} 32' N.$, long. $48^{\circ} 38' E.$; 25 m. NW. Sanaa, and 104 NE. Hodeida. Pop. unknown, but may probably amount to from 1,500 to 2,000. It stands near a mountain, in a fertile country, in the centre of the coffee lands, the dep. to which it gives name being a part of Haschid-u-Bekel, one of the most noted divisions of Yemen for the growth of coffee. Amran is not, however, politically united with the state of Haschid-u-Bekel, but is under the government of the Imam of Yemen Proper. (Niebuhr, Des. de l'Ar., par. ii. pp. 127-220.)

AMRETSIR or UMRITSIR (*Pool of Immortality*), a town of the Punjab, India, the holy city of the Seikh people, 44 m. E. Lahore; lat. $31^{\circ} 38' N.$, long. $48^{\circ} 38' E.$ Pop. estimated at 90,000. It is an open town, about 8 m. in circ.; streets narrow; houses lofty, and built of burnt bricks, but the apartments are small. Manufactures inconsiderable; but being situated on the high road between Cabool and Delhi, and Cachmere and the Deccan, it enjoys an extensive trade, and is the residence of several rich merchants and bankers. It is defended by a fort built by the Runjeet Singh, who united it to the Ravee by a canal 84 m. in length.

The town derives its entire celebrity from its being the principal seat of the Seikh religion. Amretsir, or the Pool of Immortality, is a basin 135 paces square, built of brick, in the midst of

which is a temple, covered with 'burnished gold' (Burnes), dedicated to the warrior saint Gooroo Govind Singh, the principal founder of the religion and power of the Seikhs. Within this temple is preserved, under a silken canopy, the *Grinth Sahib*, or sacred book of the Seikhs, being a code of laws and ordinances, principally compiled by the above saint. The temple is attended by a numerous body of priests, who are supported by the voluntary offerings of the devotees by whom it is frequented. Immersion in the sacred pool is believed by the Seikhs, and many tribes of Hindoos, to purify from all sin.

In 1846 a treaty was signed at Amretsir, by which the territory comprised between the rivers Beas and Sutlej was ceded to the British.

The total annual value of the trade of Amretsir is estimated to exceed 1,000,000*l.* sterling, the most important items being—shawl fabrics, about 235,000*l.*; cotton piece goods, 235,600*l.*; raw silk, 147,000*l.*; silk fabrics, 48,600*l.*; spices, drugs, grocery, and haberdashery, 66,000*l.*; and tea, 10,000*l.* The remainder is made up of a great variety of articles, including madder, alum, indigo, tobacco, sugar, jewels, and cochineal. The silk manufacture is a very important one at Amretsir, as well as at Lahore and Mooltan. The raw silk is imported from Kokand, Bokhara, Balkh, Khulm, Kashmir, and other parts of Central Asia; from Bengal, and from China by Bombay. The greater portion of the trade is with Afghanistan and Central Asia. Amretsir is the principal mart in the Punjab for the cotton fabrics of Manchester, the gold thread of Agra and Delhi, the metal utensils of Hindustan, the sugar grown in the surrounding alluvial plains, and the grain and cattle of the neighbourhood. Founded about one hundred years ago, the town is now the terminus of a railway from Mooltan by Lahore, and the seat of shawl and silk manufactures, and is advancing yearly in wealth and population. It is proposed to construct a road from Lahore to Peshawur, which will greatly facilitate the trade between Amretsir and the latter place, through which is the principal trade with Afghanistan and Central Asia. A further impulse will be imparted by a railway between Amretsir and Delhi in course of construction. (Report of Mr. Davies on Trade of Central Asia, 1863.)

AMSTERDAM, a famous marit. and commercial city of Holland, cap. prov. N. Holland, and of a district and cant. of the same name, on the S. bank of the Y, an inlet or arm of the Zuyder Zee, where it is joined by the Amstel; lat. $52^{\circ} 22' 17'' N.$, long. $4^{\circ} 58' 15'' E.$ Being situated in a marsh, its buildings are all founded on piles driven from 40 to 50 feet into a soil consisting of alluvial deposits, peat, clay, and sand. The canals by which it is everywhere intersected, and along which all heavy burdens are conveyed, divide it into 90 islands, and are crossed by about 290 bridges, partly wood and partly stone. Its form is that of a crescent or half moon, the horns on either side projecting into the Y, and inclosing the port. On the land side it is surrounded by walls having 26 bastions and a wide ditch; but its ramparts have been planted with trees, and converted into public walks and boulevards; the only defence of the town consisting in the facility with which the surrounding country might be laid under water. It is from 8 to 9 m. in circ., and covers a space of about 900 acres. The Amstel, which runs through the city, divides it into two nearly equal portions; that to the E. of the river being termed the old, and that to the W. the new city. In the centre and oldest portion of the city, on both sides the Amstel, is a cluster of irregular streets and canals; but the streets and canals round this central nucleus are

mostly regular, and parallel to each other. Three of these streets, the Heeren, Keyzers, and Prinzen Gracht, are not easily to be matched in any other city of Europe for their length, width, and the grandeur and elegance of their buildings. They are each about 2 m. long, about 220 feet broad; and following the direction of the outer wall of the city, which is that of a polygonal crescent, have all the lines perfectly straight between the angular points. The houses are large and well built; a canal, crossed by numerous stone bridges and bordered with trees, runs down the middle of each of these streets, the spaces on both sides being well paved and lighted, as is indeed the case with all the other streets. The principal shops are in the Kalvers Straat, the Nieuwendyk, and the Warmois Straat. The quarter occupied by the Jews is the dirtiest part of the town. Many artisans and others belonging to the poorer classes inhabit cellars under the houses of the more opulent; and a great many reside constantly on the water, in comfortable apartments built on the upper decks of their trading vessels, more particularly those employed in inland navigation. The houses, which are all of brick, are generally 4 or 5 stories high, and have their gables to the street. Many of them are constructed in an elegant style, and some of them are splendidly fitted up.

Of the public buildings, the palace, formerly the stadt-house (town-house), is the most magnificent. It stands in an open space or square, called the Damm. This fine structure, regarded by the Dutch as the eighth wonder of the world, is erected on a foundation of 13,659 piles; it is 282 feet in length, 235 in depth, and 116 high, exclusive of the cupola, which is 41 feet higher, and from the top of which there is an excellent view of this singular city. With the exception of the ground floor, which is of brick, it is built of freestone. The ball-room, represented as one of the finest in Europe, is said to be 120 feet long, 55 in width, and 90 in height. The foundations of the stadt-house were laid in 1648, and it was finished in the short space of 7 years. Among the other public buildings are, the exchange, founded in 1608, and capable of accommodating 4,500 persons; the *hôtel de ville*, formerly the admiralty; the museum, containing an excellent collection of about 500 pictures, including several master-pieces, principally of the Dutch and Flemish schools; the arsenal, built on the island of Kattenburg; and the buildings of the society of *Felix Meritis*, having a superb concert hall. Of the churches, that most worthy of attention, the New Church, was begun in 1408. It contains some fine monuments, particularly one in honour of the brave admiral De Ruyter. The painted glass windows of the Old Church, dedicated to St. Nicholas, are among the finest in Europe. There are in all about 50 places of worship, among which are several synagogues, the Jews being supposed to amount to about 16,000. The principal bridge over the Amstel, near where it enters the city, is 610 feet in length by 64 in breadth, with 11 arches, through which large ships pass. The barracks, built by the French, three weigh-houses, and two ancient towers, called herring towers, deserve to be noticed. In 1822, the warehouses originally built for the East India Company being heavily laden with corn, their foundations gave way, and they sunk half way down in the earth.

Among the literary institutions is the Athenæum, or college, with 10 or 12 professors, a good library, an anatomical theatre, and a botanical garden. There are here also a school of navigation; a royal academy of the fine arts, founded in 1817, with 6 professors; the Amsterdam Institute,

or Society of *Felix Meritis*; and a society of Public Utility, founded on an extensive scale in 1787. Schools of the best description, for the gratuitous education of the poor, are found in every part of the town; and instruction may be said to be universally diffused. There are three theatres. The workhouses, hospitals, infirmaries, the house of correction, or rasp-house, the orphan-house, the establishment for widows, the lunatic asylum, with the numerous other charitable establishments, may be cited as models of good order, cleanliness, and economy. The hospital for the old and indigent of both sexes, on the quay of the Amstel, is admirably contrived for the comfort and convenience of its inmates. The building is 260 feet long, by 230 deep, and 3 stories high. It has galleries and a garden where its occupiers enjoy the fresh air. There is here, and in other Dutch towns, a class of provident institutions or asylums, which admit aged persons of both sexes on payment of a comparatively small sum. Masters and mistresses frequently reward old and faithful servants, by paying for their admission into one of these excellent institutions.

The mouths of the canals opening into the Y and of the Amstel are provided with strong flood-gates; and on the side of the town nearest the sea a new dyke has been constructed to guard against inundations. The harbour is spacious and secure; the largest ships coming close to the quays and warehouses. It has recently been much improved by the formation of docks and basins. At the point where the Y joins the Zuyder Zee there is a bar, called the Pampus, which cannot be crossed by large ships unless previously lightened. To obviate the inconveniences arising from this circumstance, and the dangers and delays occasioned by the shallowness and difficulty of navigating the Zuyder Zee, a ship canal has been constructed from Amsterdam to the Helder. This noble work is about 50½ m. in length; and being 20 feet 9 inches deep, admits large ships. Its level is that of the highest tides, the only locks it requires being one at each end; but it has two sluices in the intermediate space. It was begun in 1819, and finished in 1825, at an expense of about 1,000,000*l.* The dues are moderate; and it has been of the greatest service to Amsterdam, by giving it, as it were, a deep-water harbour on the most accessible part of the Dutch coast.

The manufactures of Amsterdam, besides various branches of those of wool, linen, cotton, and silk, comprise sail-cloth, refineries of sugar, borax, sal-ammoniac, sulphur, &c.; with distilleries and breweries, tanneries, tobacco-manufactories, iron-foundries, rope-walks, smaltz-works, gas-works, soap-works, oil mills, &c. Ship-building is extensively carried on. The art of cutting diamonds and other stones for the lapidaries has here attained to great perfection. About 10,000 persons, 9,000 of whom are Jews, are engaged in the trade, and the annual value of the traffic in precious stones amounts to 50,000,000 florins. Jewellery, gold lace, &c. are also largely produced. But Amsterdam is far more distinguished as a trading than as a manufacturing city. Throughout the 17th century, and the first half of the 18th, she was what London is at present, the metropolis of the commercial world. Gradually, however, partly in consequence of the oppressiveness of the public burdens, but more, perhaps, of the growth of commerce and navigation in England and other countries, she lost the greater part of the carrying trade, which she had nearly engrossed, at the same time that her fisheries and foreign trade progressively fell off. During the subjugation of Holland by France, her colonies

fell into the hands of England, her ships disappeared from the sea, and the trade of Amsterdam was almost annihilated. But notwithstanding these untoward events, and the exactions to which she was repeatedly subjected, she preserved her industry and a vast amount of capital; and no sooner had peace been restored and Holland had recovered a portion of her colonies, than the commerce of Amsterdam began rapidly to increase; and though still far short of its ancient importance, it is now of very considerable extent and value.

The imports principally consist of sugar, coffee, spices, tobacco, cotton, tea, indigo, cochineal, wine and brandy, wool, grain of all sorts, timber, pitch and tar, hemp and flax, iron, hides, linen, cotton and woollen stuffs, hardware, rock-salt, tin plates, coal, and dried fish. The exports consist partly of the produce of Holland, partly of the produce of her possessions in the East and West Indies and other tropical countries, and partly of commodities brought to Amsterdam as to a convenient *entrepôt* from different parts of Europe. Of the first class are cheese and butter; madder; clover, rape, hemp and flax-seeds; rape and linseed oils; Dutch linen, &c. Geneva is principally exported from Schiedam and Rotterdam (no less than 300,000 cases were despatched to Australia in 1862); oak bark principally from the latter. Of the second class are spices; Mocha and Java coffee; sugar of Java, Brazil, and Cuba; cochineal, indigo, cotton, tea, tobacco, and all sorts of eastern and colonial products. And of the third class, all kinds of grain; linens from Germany; timber and all sorts of Baltic produce; Spanish, German, and English wools; French, Rhenish, and Hungarian wines, brandy, &c. The trade of Amsterdam may, indeed, be said to comprise every article that enters into the commerce of Europe. The total value of the imports and exports are respectively estimated at about 3,500,000*l.* or 4,000,000*l.* From 220 to 230 large ships belong to Amsterdam, employed in the trade to the E. and W. Indies, the Baltic, &c. There is little coasting trade; the communication with most other Dutch towns being principally kept up by canals and railways. The total number of ships of all sorts entering the port amounts, at an average, to about 2,200 a year. In 1862 only 1,725 vessels entered the port, a considerable decrease from the preceding year. Amsterdam has regular steam communication with Harlingen, Hamburg, London, and Hull, and is connected by railways with the Hague, Rotterdam, and Arnhem. The trade of Amsterdam is chiefly with Australia, Java, Guinea, Japan, Chili, Rio de la Plata, the Mediterranean, Sweden, Norway, the Baltic, and the White Sea. The trade with England is decreasing.

The merchants of Amsterdam were formerly most extensive dealers in bills of exchange, and in all sorts of funded property and government securities; but London is now, in this respect, far superior to her old rival: the latter, however, still enjoys a large share of the exchange business of the Continent, and many of her capitalists are large holders of foreign securities.

The old bank of Amsterdam, founded in 1609, and so celebrated among the moneyed institutions of the 18th century, ceased to exist in 1796, on the invasion of Holland by the French. The present bank of the Netherlands was established in 1814. Insurance business is extensively carried on.

Amsterdam is scarcely more populous now than it was eighty years ago. In 1785 the pop. is said to have amounted to 235,000. It had declined in 1814, the epoch of its greatest depression, to 180,000; and it amounted, in 1841, to 211,349,

and, in 1861, to 263,204. Notwithstanding the city is surrounded on all sides with water, and that the greatest care and attention are required to prevent its being submerged, it labours under a total want of spring water. The water in the river and canals being filthy, brackish, and totally unfit for use, the inhabitants are partly supplied by rain water carefully collected in tanks, and partly by water brought in a peculiar description of barges from the Vecht, 6 or 7 m. distant. Despite this want of good potable water, the humidity of the atmosphere, and the effluvia generated in warm weather from the water of the canals, the town is free from epidemic disorders, and the inhabitants are healthy and robust. Most probably this is owing in a considerable degree to the comfortable mode of living of the bulk of the people; the prevalence of cleanliness, in which the Dutch are superior to all other nations; and the absence of extreme poverty and destitution.

The toleration that prevails at Amsterdam does honour to the people and the government. There is here every variety of sect; but they are distinguished by nothing so much as by their abstinence from theological discussions, and by their apparent respect for the opinions of others. It must not, however, be inferred that the toleration existing here and in the rest of Holland—a toleration perfect in *fact* as well as in law—has its origin in any degree of apathy with respect to religion, or in any irreligious tendencies on the part of the people; such a conclusion would be utterly erroneous. Generally speaking, the Hollanders, whatever may be their particular religious profession, are firm believers, and devoted to the practice of piety. This virtue pervades all classes of society. Amsterdam for ages has been a 'city of refuge' to the oppressed and persecuted of all nations; and therein lies one of the main causes of its wealth and prosperity.

In every part of Holland, but no where more than at Amsterdam, do we find proofs of the astonishing power of ingenuity, industry, and perseverance. This great city is not merely built in a marsh, but is constantly exposed to the risk of being overwhelmed by the influence of high tides and storms. But this danger has been effectually provided against; and the waters by which the city is all but surrounded, and which penetrate every one of its streets, are under complete control, and made to contribute to the comfort and accommodation of the inhabitants. The works necessary for the public safety and protection require, however, to be watched over with unceasing vigilance; and a large annual expenditure is incurred in keeping them in good repair, and in dredging and clearing the port and canals.

Notwithstanding the superabundance of water, there is not, owing to the flatness of the soil, a single water mill in Holland. There are, however, immense numbers of wind mills, employed frequently to pump up water from the low grounds, as well as to grind corn, and crush seeds. There is a large windmill on every one of the bastions by which Amsterdam is surrounded.

Amsterdam has been sometimes called the Venice of the North; and in respect of situation, number of canals, and the magnificence of the public and private edifices, it certainly bears a very striking resemblance to the Venice of the South. But each of these great cities has, notwithstanding, a perfectly original and distinctive character.

In the 12th century, Amsterdam was only a small fishing village; in 1482, it was fortified. At the outset of the revolutionary struggle with Spain, the Duke of Alva having expelled the Protestants from the city, and committed the government to

zealous Catholics, it supported for a lengthened period the cause of the Spaniards; and it was not till 1578 that it joined the confederation. From this epoch it began rapidly to increase. The most complete toleration being granted to all sects, it became an asylum for those driven by persecution from the other towns of the Low Countries and elsewhere. The closing up of the Scheldt, in 1648, transferred the greater part of the trade of Antwerp to Amsterdam, and raised the latter to the highest pitch of prosperity.

AMSTERDAM ISLAND, a small but remarkable island in the S. Indian Ocean, lat. $37^{\circ} 47' S.$, long. $76^{\circ} 54' E.$, being $4\frac{1}{2}$ m. in length, by $2\frac{1}{2}$ in breadth, and 700 feet high. It is obviously of volcanic formation. A large portion is occupied by what has undoubtedly been a magnificent crater; but the sea having made an irruption into one of its sides, it is now converted into a circular harbour, the only accessible one in the island. The surface is everywhere light and spongy, and in parts burning hot. There are several hot springs, having temperatures varying from 80° Fah. to the boiling point; with the exception of a single chalybeate spring, having a temperature of 112° , all the springs in the island are brackish. Some of the hot springs are so near the water's edge, that it is no exaggeration to affirm that fish taken with the one hand may be boiled with the other! The surrounding seas swarm with various species of fish, particularly with crayfish. No trees or other fruit-bearing plant, nor quadrupeds, nor land-birds, are found on this island; but it is resorted to by vast numbers of sea-birds. Seals and sea lions abound on its shores and in the adjoining sea, which makes it be occasionally visited by ships engaged in the seal fishery. It was discovered by a Dutch navigator, Van Vlaming, in 1696, and was visited by Mr. Barrow in 1793.

AMSTERDAM, NEW, a town and harbour of S. America, English Guiana, near the m. of the Berbice river. Pop. 1,750 in 1861. Being founded by the Dutch, it is built in their fashion, and intersected by numerous canals. The private houses are mostly of wood, covered with bamboo leaves, but the government offices are of brick, and handsomely built. The entrance to the river, in lat. $5^{\circ} 20' N.$, long. $57^{\circ} 11' W.$, is defended by three forts. There are only 7 feet water on the bar at low ebb. The canals being filled and emptied by the flow and ebb of the tide, all impurities are swept off, and the health of the town is preserved notwithstanding the heat of the climate.

AMTZELL, a village of Würtemberg, circ. Darmstadt. Pop. 1,306 in 1861. There is a fine old castle.

ANACAPRI, a town in the NW. corner of the island of Capri, in the Gulf of Naples, on the N. side of Mount Solaro, nearly 2,000 feet above the level of the sea. Pop. 1,667 in 1861. The ascent to it is very steep, and is effected by a stair of 552 steps, called *la scalinata*. It has a church, a convent, and a castle in the neighbourhood: there are also two ancient towers, and the remains of some edifices, ascribed to Tiberius. The prospect from the castle is extensive, and singularly rich and beautiful, commanding the Tyrrhenian sea, the Gulf of Naples, and Vesuvius. The inhabitants are said to be much attached to the situation; and some, it is affirmed, have never descended *la scalinata*.

ANAGNI, a town of central Italy, 38 m. E. by S. Rome, on the railway from Rome to Naples. Pop. 5,600 in 1861. The town stands on a hill, and has a very fine prospect; but its interior is mean and miserable. It is the seat of a bishopric, founded in 487.

ANAM OR AN-NAM (EMPIRE OF), also known as COCHIN CHINA, a country of Asia, occupying the E. portion of the great E. peninsula of S. Asia, or India beyond the Ganges, comprising Cochin China and Tonquin (to which only the name of An-nam properly belongs), with the E. and S. part of Cambodia, and many small islands in the Chinese Sea. It lies between $8^{\circ} 45'$ and $23^{\circ} 22' N.$ lat., and 105° to $109^{\circ} E.$ long.; having N. the Chinese provinces of Quang-tong, Quang-si, and Yun-nan; W. Laos and Siam, and in the rest of its extent, the ocean. It is 965 m. in length, varying in width from 415 m. to 60 m. Area, probably about 98,000 sq. m. Pop. estimated at from 10 to 12 millions.

The country is subdivided as follows:—

1. *Cochin China* (called Dang-traoing, or Central country).

PROVINCES.—Bue-thuen, Nha-trang, Phu-yen, Qui-nhon, Quang-al, Quang-nam, Hué.

CHIEF-CITIES.—Hué, the capital (pop. 60,000, *Crawford*), Turon, Fai-to.

2. *Tonquin* (Dong-kiuh, External country).

PROVINCES.—Ke-cho, Ting-long, Wai-tak, Sangsal, King-pak, Sing-kwang, Hing-wha, Ko-ping, Leong-san, Ching-wha, La-nam 1st, La-nam 2nd, Hai-yong, Aw-kwong, Man-ning-chao.

CHIEF-CITIES.—*Ke-cho* (Cachao), 150,000 inhabitants. *Heam*, 20,000 inhabitants.

3. *Cambodja* (called Ko-men by the natives).

PROVINCES.—Ya-teng, Ping-fong, Fo-nan, Win-cheng, Ho-sin, Teng-chong.

CHIEF-CITY.—Sai-gon, 180,000.

The above figures are chiefly taken from Crawford's 'Journal of an Embassy,' one of the best works on Anam.

Mountains.—The principal chain, an offset from the Himalaya range, runs through the central and southern parts of the country, forming the W. boundary of Cochin China, and the E. one of Laos and Cambodia, and terminates at Cape St. James, in lat. $10^{\circ} 16' N.$ Between this range and the sea, Cochin China consists of a succession of others, gradually decreasing in height as they approach the shore, and inclosing a great number of fertile valleys. These mountains have not been measured by Europeans. The summits of the principal chain are acuminate, sterile, and most probably granitic; but their steep sides are clothed with extensive forests, and the inferior ranges are often cultivated nearly to their tops. (White's Voyage to Cochin China, p. 72; Finlayson's Mission to Siam and Hué, p. 825.)

Plains.—Tonquin and Cambodia are both immense alluvial basins of great fertility, and traversed by large rivers: in addition to these, there are a few small flats around the mouths of the rivers in the central provinces. The plain from the mouth of the Oubouqueme to Cape St. James is but little above the level of the sea, and subject to inundation at every spring tide.

Rivers.—The Menam-kong, or river of Cambodia, is one of the largest in Asia; it rises in the Chinese province of Yun-nan, is joined by some large streams from Tibet, and, running nearly due S. through the centre of Laos and Cambodia, forms, for some distance, the W. boundary of the Anamese dominions, and discharges itself in lat. $9^{\circ} 85'$ and $10^{\circ} 15'$ by two principal mouths (the farthest N. being called the Japanese river, the S. one the Oubouqueme), and by many smaller ones. The Sang-koï (*Balbi*) or river of Tonquin, has a shorter course; it rises in the mountains of Yun-nan, runs mostly SE. through Tonquin, passing by Ke-cho, and falls into the Gulf of Tonquin by two principal mouths, between 20° and $21^{\circ} N.$ lat. Both these rivers, as well as that of Sai-gon (which is

$\frac{3}{4}$ of a mile in width near that city), have deltas at their mouths: they are navigable generally for large ships; but owing to sand banks at both its mouths, it is reported that the Tonquin river is available to none above 200 tons burthen, though Crawford doubts this statement as respects the N. mouth. (Crawford, Journal, &c., pp. 459-462.) There are several other considerable rivers in Tonquin; as the Li-sing-Kiang: along the Cochinchinese coast they are all much smaller, and with a shorter course; the river of Hué (on which the capital is situated) is one of the most considerable, has a fine estuary, and is navigable by vessels of 200 tons burthen.

Lakes.—Harbours.—Europeans have described no lakes of any magnitude; but the shores of Cochinchina abound with some of the finest harbours in the world. From Cape St. James to the Bay of Turon, there are no less than nine of these, safe and accessible with every wind: that of Turon, in the opinion of Mr. Crawford and others (though not in that of M. de Bougainville), is not surpassed by any in the East.

Coast and Shores.—The coast here is generally bold, and presents many promontories, like that of C. St. James, which is 300 feet in height; the precipices occasionally alternating with a narrow sandy beach. The anchorages are everywhere good; but at no great distance from the shores sandbanks and rocky islands are often very prevalent.

Geology and Minerals.—The primitive rocks, of which the principal mountain chain is almost wholly composed, are granite and syenite; the lower hills contain quartz, marble, and mountain limestone. In the S. provinces the granite is seamed in every direction; on the rounded sides of the hills it alternates with syenite, and both rocks are penetrated by veins of iron ore: near Hué, all the hills are granitic, and their peaks in the highest degree sharp, rugged, and uncovered. There is a great diversity of upper soils in the valleys; some being dry, friable, and sandy; others of a stiff clay. The soils of the central provinces are, however, mostly sandy: those of Tonquin and Cambodia are, as already stated, alluvial. Around their shores there are extensive and fertile mud-flats.

Tonquin is the only part of the empire rich in metals; it produces large quantities of gold, silver, copper, and iron: with the latter it supplies all the country except the most S. part. Its mines are worked by Chinese, and about 100 piculs (or 17,800 lbs. Troy) of silver are produced yearly. Cochinchina has no metallic wealth: silver only is said to be found at Cape Avarella; Cambodia is poor in metals. It produces iron, but in inadequate quantity for its own use, and it is therefore imported from the neighbouring countries to the W. of it: the central provinces yield salt.

Climate.—Is generally fine and healthy, the heat being tempered in the maritime districts by the sea breezes; in the winter it is even cool in Cochinchina, but in Tonquin the heats of summer are excessive, and the cold of winter proportionally severe. At Hué, M. Chaigneau, who resided there for some time, reports that the greatest heat of summer was 103°, and of the cold of winter 57° F. During the wet season of August, Mr. Crawford found that the thermometer in the shade ranged in one day from 79° to 82° F. at Sai-gon. In the S. the seasons follow the same order as in Malabar, Bengal, and Siam; viz. the rains prevail with the SW. monsoon from May or the beginning of June, to September: the same takes place in Tonquin. But in Cochinchina, between 11° and 18° N. lat., the rains set in with the NE. monsoon, and last from October till March; the high mountain range protecting this country from wet weather by inter-

cepting the clouds at the converse season of the year. The general height of the barometer at Hué is 29.85'. Immense inundations last sometimes for three or four days at a time. Tonquin is subject to heavy fogs and violent hurricanes.

Vegetable Products.—The forests of Cochinchina produce a variety of scented woods, as sandal, rose, eagle-wood, &c. The true cinnamon (*Laurus cinnamomum*) is indigenous to this country, and valued by the Chinese more than that produced in any other: it is found wild chiefly in dry and sandy soils. The banks of the Sai-gon and the other large rivers are thickly covered with jungle; amongst which are teak, iron-wood (*Syderoxylon*), a kind of Callophyllum, as straight as a Norway fir and well adapted for ships' masts; mangrove, &c. In the forests of Cochinchina, cedars, walnut, peltrey, cocoa, areca, betel, bamboo, rattan, ebonies, and most of the products of British India. Cambodia yields gamboge, the finest cardamoms, aniseed, areca, and indigo; the central provinces, pepper and two sorts of sugar cane; Tonquin, many kinds of varnish trees, areca palms, and other vegetable produce. Cotton, rice, and the mulberry tree are almost universal. Amongst the fruit are oranges of a blood-red pulp and delicious flavour, bananas, figs, pomegranates, pine-apples, guavas, mangoes, shaddockes, lemons, limes, and plantain. Ginger, and spices of various sorts, are also indigenous. An inferior sort of tea, with a leaf twice or thrice as large as that of Bohea, grows wild in the hilly parts of Quang-ai, and is sold at from 6 to 20 quans the picul, or, in English money, for about a penny a pound.

The cocoa-nut tree, next to the bamboo, is the most useful of any. The trunk is used for house and ship building; the husk produces cordage and cables superior to any other; the leaves are used for roofing, and for making paper, and wicker work; the oil for lamps and painting; the shell for cups, &c.; and the nut furnishes both food and drink.

Scenery.—The interior of Cambodia has been little explored by Europeans, but its surface is believed to be covered, in great part, with extensive forests. The banks of the river Sai-gon are covered with mangrove trees, and no cultivation appears until within from 20 to 30 m. of that city. *Bin-thuon*, the most S. prov. of Cochinchina, extends to about 12° N. lat., and is most remarkable for its aloes. *Nha-trung*, which succeeds it, is an elevated and ill-cultivated region, but produces silk. *Phu-yen*, which reaches as far as lat. 14°, is the richest and the most highly cultivated and peopled province of all: it is full of fruitful valleys and gently undulating hills, on which rice is grown in terraces, almost to their summits, and bounded W. by lofty mountains, crowned with towers and pagodas, or having their pinnacles enveloped in fleecy clouds. *Qui-nhon* is a province of great extent, and well cultivated: *Quang-ai* and *Quang-nam*, extending from 14° N. to nearly 17°, are almost exclusively the countries of the sugar cane and the tea tree. The banks of the river of Hué, though beautiful, are more indebted to art than to nature; they abound in ornamental gardens, laid out amongst groves of cocoa, areca, banana, and bamboo, and rows of hibiscus. At Turon, and in most of the N. of Cochinchina, there is a degree of sterility not met with in the S.; but the whole country is apparently inferior in fertility to that of Siam. Tonquin has been very imperfectly examined by Europeans, but is the most populous province; therefore, most probably, of superior fertility and cultivation.

Animals.—The elephant, rhinoceros, tiger, leopard, buffalo, bear, horse, deer, goat, &c., are natives of Anam. There are no jackals nor foxes; nor

hares, but a profusion of other kinds of game. Great numbers of monkeys and baboons are found in the woods: one large and powerful species seems to be peculiar to Cochin China; the dog and cat, which are also natives, are domesticated: elephants are used in war. Peacocks, parrots, and a variety of birds of the richest plumage, inhabit the forests; curlews, plovers, &c. the shores; and aquatic birds of all descriptions, the rivers. Alligators inhabit the larger rivers; the *cobra-de-capello*, and several other large and venomous serpents, infest the country. The seas abound with an inexhaustible supply of fish, and afford subsistence to a large portion of the population; amongst the species are, the flying fish, scorpion fish (remarkably and beautifully variegated), mango fish of Bengal, &c., with soles, mullets, and many others familiar to us; shrimps and crawfish are very fine; and molluscs, in large quantities, are taken for food. Mosquitoes and other insects abound in great quantities.

The People consist of several races:—1. the *Cochin Chinese* and *Tonquinese*, who are similar in person, and most of their habits and customs, to the Chinese; 2. the *Cambodjans*, in physical qualities, manners, &c., more resembling the Siamese; 3. the *Mot* race, inhabiting the mountainous country between Cochin China and Cambodja; believed by some to have been the Aborigines; said to be black like the Caffres, and in a savage state. Besides the native races, there are 25,000 Chinese, who work the mines and trade in metals in Tonquin, and many others who are settled in the commercial towns, but mostly in the N. provinces. The other strangers are chiefly Malays, about 6,000 in the S. parts of Cambodja, and Portuguese.

Physical Qualities.—According to Mr. Finlayson, a surgeon, who accompanied Mr. Crawford in his embassy in the year 1822, the majority of the inhabitants are of Malay origin. He observes 'that the men average 5 feet 2½ inches in height, which is below the ordinary standard of the Malays and Siamese; they are less bulky and clumsy than the latter, but of a somewhat squat figure. Their upper extremities are long, their lower ones short and stout; they are not fat; their muscular system is large and well developed. Head and face both nearly round; the longitudinal and transverse diameters of each being nearly equal; forehead short and broad, cheek-bones wide, but not particularly salient, chin large and broad; but the coronoid process of the lower jaw has not the fulness apparent in the Malays and Siamese, and the affinity in this respect to the Tartar race is still less. Eyes rounder and smaller than those of the Chinese and Siamese, more lively and intensely black; lips moderately thick; hair on the scalp copious, black, and coarse; beard grizzly and thin, and no hair on the cheeks. The colour of the skin is olive, and very often, especially in the females (who are sometimes really handsome), the complexion is no darker than that of the inhabitants of the S. of Europe.' (Finlayson, pp. 298, 374-378.) They are intelligent, without much originality or invention; but exhibiting a very great aptitude for imitation. Of their disposition, such conflicting statements have been made by those who have experienced either a handsome or an unhandsome reception from them, that it is difficult to come to any conclusion. They are sprightly, animated, good-humoured, and altogether destitute of the solemn reserve of the Chinese; always laughing and chattering, volatile, capricious and changeable, vain, and endued with considerable national pride. Crawford and Finlayson say that they are mild, docile, and inoffen-

sive; (no travellers have accused them of ferocity;) affable, kind, and attentive to strangers; and the lower orders not rapacious, although a despotic, illiberal, and avaricious government has unquestionably made all within the influence of the court the most arrant thieves. In their manners and behaviour the Anamese are polite and graceful; but punctilious and ceremonious.

Agriculture.—Rice, which is here the 'staff of life,' forms the main article of culture. There are six different sorts grown; two on the uplands, used for confectionery, and yielding only one crop annually; the other sorts yield from two to five crops a year; but generally two, one in April, and another in October; or three, where the inundations have been profuse. Maize, cotton, yams, sweet potatoes, pulse, and fruit, are the other articles of general culture.

The sugar-cane is cultivated by the Cochin Chinese only, and a very inferior, dark, clayey produce obtained. Most of the cinnamon that is exported is cultivated; tobacco, capsicum, pepper of a very good quality in the central provinces, are other chief objects of tillage; no coffee is grown, except in a few gardens near Hué.

Raw silk is produced in large quantities in Tonquin and Cochin China. The ground is but indifferently tilled; near Sai-gon, it is in many small patches of about half an acre, the rice grounds being bounded by ditches. Agricultural labour is almost wholly performed by women; they guide the plough, which is drawn by a buffalo, plant the rice, build and repair the cottages, and are entrusted with all the household concerns. Their pay, as well as that of labourers of the other sex, is 1 *mas* a day with food, or 2 *mas* without it.

The buffalo is domesticated, and is useful in agriculture; the ox is of a small reddish-brown kind, but not used as food, beef not being commonly eaten. A small species of goat is kept; but sheep are very rare and extremely inferior. The hog is a very favourite animal; the breed is the Chinese, and remarkably fine. At Hué, hogs are always stall-fed, and seldom suffered to roam at large. The horse, of an inferior breed, is used only for riding, being unfit for cavalry service. There are neither asses nor mules.

Poultry, in large numbers, are kept everywhere: those at Sai-gon are said to be amongst the finest in India. Geese are not so common as ducks or fowls. The game cocks are trained for fighting.

Food, &c.—The diet of the people is to European ideas often gross and disgusting in a high degree. Rice, legumes, and fish form the chief part of their food: but dogs' and alligators' flesh, rats, mice, worms, frogs and other reptiles, maggots, entrails, and putrid meats, are among their favourite dishes. Pork, boiled ducks and fowls, boiled and stewed yams, and sweet potatoes, sugar-cane, fruit, and much confectionery, compose great part of the rest; and tea, and rice-whiskey (of which a great deal is drunk), compose their usual beverages. Fish-pickle is their favourite condiment, into which nearly every morsel they eat is plunged. Elephants' flesh is eaten only by the sovereign and nobility. Milk is not used at all, and eggs are not valued until they are rotten, or nearly hatched. They take two meals a day; one at 9 or 10 o'clock in the morning, the other at sunset. These they take in the open air, generally in front of their houses, and eat with chop-sticks tipped with ivory or metal, porcupine quills, and a pottery spoon.

The tobacco that is grown is all used in the country. All the men smoke, and, as well as the women, chew betel and areca, which either they

or their attendants (if rich) always carry with them in boxes or large purses for the express purpose. In their persons they are extremely dirty, notwithstanding their frequent ablution; their under garments are never washed nor changed until they drop to pieces; their nails are never cut, their length being an indication of rank.

Arts and Manufactures.—The inferior dwellings consist of mud walls, thatched or covered with bamboo leaves; the better sort of houses are of wood or brick, and tiled, but the bricks are only baked in the sun, and glazed windows are unknown. The huts of the peasantry near Sai-gon consist of wattled floors, raised about 8 or 4 feet above the ground, and contain two or three compartments, one of which is a common room; in the others the family sleep on mats on a kind of raised platform, ranged around the walls. The ordinary furniture of a cottage consists of a coloured matting for the floor, an earthen stove, an iron rice-pot, and some very rude porcelain and other earthenware articles.

The art in which, above all others, the Cochinese excel, is that of ship-building. Their vessels, the construction of which, were it not for their rude materials, would not disgrace Europe, are built of from 5 to 100 tons burthen, but mostly between 16 and 30 tons; sharp at either end, and the deck one-third longer than the keel. Their bottoms mostly consist of wicker-work, covered on the outside by a coating, $\frac{1}{2}$ inch thick, of *galgal*, a close and durable mixture of pitch, oil, lime, &c. The sides and deck are bound together with cross-bulk heads; and as the larger vessels usually belong to a joint-stock company of merchants, there are as many separate holds as owners. The fishing boats and others, 50 feet in length, are made of 5 long planks extending from stem to stern, their edges morticed, tightened with wooden pins, and bounded together by twisted bamboo fibres: at each end they are raised much higher, and painted, gilded, and ornamented with figures of dragons and serpents. They often carry a covered cabin, built like a house upon the deck; from one to three sails of matting, which in the N. provinces are often square and more like those of Europe; a wooden anchor with one fluke, shrouds and cables of rattan, and cordage of *cour*. During the unfavourable monsoon, the boats are taken to pieces, and the larger vessels drawn up on shore to some distance. The mode of rowing is by pushing, and not pulling, the oars against the water (White, p. 209): when there are many rowers, they push in regular succession, beginning with the one at the stern. The government rowers, who are selected from the army, are paid but 1 quan per month. The boats that ply for hire are chiefly conducted by women; but the very unfair and ungallant custom prevails, that the men pay no fare, they being all supposed on government service. They have no wheeled carriages; but people of distinction are carried in a palanquin, formed of a cotton net hammock, with a mattress and pillows inside, covered by a large varnished canopy, in form like a tortoise-shell; the whole slung upon a long pole, and carried on the shoulders of two, four, or six men.

In most manufactures, the Anamese are very far behind, and are superseded by the Chinese, from whom they derive most of their useful articles. Sword-handles with very good filagree work, boxes of lacquered ware, inlaid with pearl or gold, purses, matting, baskets, coarse silk, and very durable cotton stuffs, bells, cannon, iron nails, scissors of a rude kind, varnish, &c. they can make; but they cannot temper iron or steel, print calico, or make a matchlock, and depend for all their arms on European nations.

Trade.—The Chinese are the butchers, tailors, confectioners, bankers, money-changers, and pedlars of the empire, and are met with in all the towns with an elastic pole across their shoulder, and at either end a basket containing their wares. In the bazaars, gilt paper, fans, porcelain, drugs, and other China produce, tools, necessities of life, and the other articles yielded by the country, are sold. Provisions are cheap. Mr. White found that, at Sai-gon, pork was 8 cents per lb.; beef, 4 c. (Americ.); fowls, 50 cents per dozen; a fine deer, 1 $\frac{1}{2}$ dollar; rice, a dollar a picul (133 lbs. Eng.); shaddocks and lemons, 50 c. per hund.; oranges, 30 c. per hund. Tea of Hué is sold in boats on the rivers, as well as varnish, which, with other combustible matters, is not allowed to be kept on shore, and the varnish merchants live constantly in their covered houses, built on bamboo rafts. The foreign trade is comparatively trifling, and almost wholly with the Chinese; very little with the Siamese or Europeans.

From 20,000 to 60,000 piculs of sugar; 250,000 to 300,000 lbs. of true cinnamon, not freed from its epidemia, at 50 to 60 quans per picul; 3,000 piculs of aniseed from Cambodia; raw silk at 8 $\frac{1}{2}$ to 5 quans the catty (2 $\frac{1}{2}$ lb.), 200 piculs from Fai-foo, 60 p. from Hué, and 1,000 p. from Cachao annually; cottons superior to those of Bengal; areca, spices, cardamoms from Cambodia, hogs' lard, scented woods, rice, edible birds' nests, and molluscs, and the precious metals, are exported to China; gamboge, red dyeing wood from Tonquin, ivory, pearl, horns, hides, gum-lac, gold-dust, and other metals in smaller quantities to other parts of the world. When Barrow wrote, sugar at Turon fetched 3 dollars, pepper of Cochinchina 6 to 8 doll., and rice half a dollar the picul of 133 $\frac{1}{2}$ lbs. British manufactures then sold usually at 20 to 30 per cent. profit, and were paid in silver ingots. Ke-cho was formerly the centre of the Eastern trade, and at the end of the 17th century the English and Dutch had factories there, whence they exported largely.

The imports are chiefly manufactured silks, porcelain, drugs, a great quantity of gilt paper, and fine teas for the upper classes, with household, &c. utensils from China; spices, sandal-wood, and tin, from Malay; opium (which is, however, prohibited) from India, 150 chests annually, 2-3rds of which are consumed in Tonquin; cottons from Canton and Singapore (but none of a variety of colours in the same piece, nor chintzes); British woollens, chiefly scarlet, some yellow or green, and all coarse; a few serges and camlets, iron and arms, from Europe; but altogether amounting to very little. The China trade is chiefly in Ke-cho, Sai-gon, Hué, and Fai-fo, but the whole scarcely amounts to 20,000 tons annually, being little more than half the Chinese trade with the single city of Bangkok, in Siam.

The transport of goods between Ke-cho and Hué is facilitated by a canal, 180 miles in length, 20 yards in breadth, and almost straight; said to be constructed by the reigning monarch in 1812: near Hué it is used for irrigation as well as conveyance.

Weights and Measures.—The picul is about 133 $\frac{1}{2}$ lbs. Eng., and divides into 100 catties, each equal to 1 and 1-3rd lb. Eng. A bag of rice weighs 50 catties. The current coin is the sepeck, cast at Ke-cho, of a compound brittle metal, called *tu-tenague*, the base of which is zinc. It is about the size of a shilling, and pierced with a square hole, by which they are strung in numbers together, and as they are the only coin used, they form a very bulky and inconvenient medium. Accounts are thus reckoned:—60 sepecks = 1 mas (5 cents), 10

mas=1 quan (50 cents), the two latter units are imaginary. A Spanish dollar is valued at 1½ quan; an ingot of silver, at from 27 to 28 quans; there are also gold ingots of the same and of double value, but the currency is subject to very capricious and roguish changes.

Public Revenues are derived from, 1. a capitation tax of 1 and 1-10th quan, paid by every male above 19 years of age; 2. a land-tax; 3. the crown lands, which are farmed by different villages; 4. various contributions, imposts on foreign trade, &c. These imposts are small, and there is none on exported sugar; those in the service of the government are exempted from them. The king has monopolies of gold-dust, ivory, and rhinoceros' horns.

The Government is an hereditary military despotism, in which, however, primogeniture is more attended to than legitimacy. The sovereign has the title of Emperor. The central administration under him is conducted by six Mandarins, ministers who have charge of the archives, religion, justice, war, finance, and woods and forests. Besides these, the viceroys of Tonquin and Cambodja, and the *Mandarin of Elephants*, who is prime minister, and minister of foreign affairs, have seats in the supreme council. Each province is divided into 3 departments, called *Hu-yen*; each dep. into 3 or 4 districts, called *Tou*. The provincial governments are under a viceroy of the 1st class of Mandarins (or military class), who has 2 civil Mandarins under him; each *Hu-yen* is governed by two and each *tou* by one civil Mandarin: the villages are governed by officers elected by the peasantry, who are answerable for the taxes of their constituents.

All rank is official, and although in part hereditary, descends a step in each succeeding generation. Each functionary has power to inflict punishment on all inferior to him in rank, and unlimited obedience to this power is displayed amongst all classes.

Armed Force.—The royal guard consists of 30,000 men and 800 elephants, besides the provincial troops, the number of which varies. All males are liable to serve, and 1 out of 3 is generally a soldier. There is continually a levy of those between 17 and 20; and those who are obliged to serve, cannot leave the army till age or infirmity compel them. They are in active service for three successive years, and then have leave of absence for the three next, which they spend with their families, employing themselves in the tillage of a small allotment of land, granted by government to each. The standing army was formerly 150,000 men; but when Crawford visited the country, it was only between 40,000 and 50,000 men. Finlayson says, 'they are robust, smart-looking troops,' clothed in British scarlet woollens, sometimes turned up with blue or yellow, and wear a conical helmet of basket-work, lacquered and gilt: their other arms are swords, muskets with bayonets, shields, and long spears, decorated with a tuft of red horse-hair. Their cartouches boxes, and other accoutrements, bear a similarity to those of Europe, the defensive arts of which, discipline, &c., were introduced by the French during the last century, who once supplied them with 10,000 stand of arms. Much progress was made in military affairs by the Cochin Chinese, and the late king cast a number of cannon. Hue, Sai-gon, and some other cities, are strongly fortified.

The Navy consists of about 200 gun-boats, carrying from 16 to 22 guns, 100 large galleys of from 50 to 70 oars, with several small swivel pieces, and a 12 or 24 pounder at the prow, and 500

smaller galleys somewhat similarly armed. The seamen are classed in regiments the same as land troops, 6 of which are on duty at the capital, and 1 at each of the other principal forts. (Crawford, p. 492.)

Religion.—The religion of the mass of the people is a species of Buddhism; the upper orders follow the religion of Confucius. Christianity was introduced in 1624 by the Portuguese Jesuits; and there are about 425,000 Christians in the empire (Crawford), viz.: 300,000 in Tonquin, 100,000 in Cochin China, and about 25,000 in Cambodja; but they are the most abject of the population, and possess no political weight whatever. The religion of the Anamese does not affect their morals or mode of life. Its ceremonies seem to consist in offering first fruits, scented woods, &c. to idols, in burning great quantities of gilt paper at certain times, sticking inscriptions on posts, trees, and houses, and carrying about phylacteries, and other sacred objects. The Cochin Chinese are very superstitious, and endeavour to appease the evil spirit more than they venerate the beneficent one. They have pagodas, and a *pantheon*; but their idols and temples are most commonly an image of the Chinese god Fo, enclosed in a small house of wicker work, hung up in a tree, or elevated on four long posts, and approached by a ladder. Their priests are few, and but little respected by a people who treat many of their gods with contempt. In Chiampa (*Tsampa*), the S. part of Cochin China, Indian and not Chinese gods are the objects of worship.

Mr. White observes, that theft is universal, and murders not uncommon. All travellers agree in the want of chastity amongst unmarried females; their open prostitution neither degrades them in public opinion, nor prevents their becoming married, after which, however, a strict watch is kept over them.

Jurisprudence.—The police of the villages and the laws are administered by the village chiefs already spoken of; in the towns, one of the principal inhabitants of each street is chosen by the rest as *head of the street*, and is answerable for the good behaviour of all the rest, over whom he is an arbitrator. In capital cases, judgment rests with the governors of the *Hu-yen*, or there may be appeal from them to those of the province, and ultimately to the royal council; where all the evidence is scrupulously re-adduced. The judges write and seal their individual opinions separately, and the emperor himself determines on the case. No distinction is made between natives and foreigners, the latter being under the protection of the minister of strangers. The several chiefs give audience and receive petitions every day; but presents to each are necessary to obtain a hearing.

The bamboo is constantly at work, and the *cauque*, or yoke, for other minor crimes, which is composed of two pieces of wood 10 feet long, fastened across by two others, and worn somewhat tightly round the neck. All capital crimes, as murder, robbery, sometimes corruption (excepting adultery), are punished by decapitation: the criminals are brought into the bazar, or public place, and placed in rows, each opposite a placard, declaring the nature of his crime; then, with one blow of a two-handed sabre, their heads are successively struck off. Parties convicted of adultery are tied together and thrown into the sea.

Polygamy is allowed; the first wife is the chief, the others being mostly of inferior rank; the children of all are, however, equally legitimate. The richer classes marry at 15, the poorer at 20 or 30 years of age, or when they can afford to buy

a woman from her friends; but women cannot be married against their own consent. Marriage is but a verbal contract, ratified by exchanging presents before witnesses, and dissolved as readily by merely breaking a pair of chop-sticks, or porcupine quills, before a third party. The remains of the dead are often laid out with much pomp under a pavilion covered with silks, and surrounded with tables of the choicest fruits, and a band of music for 15 days. White garments are worn, and much gilt paper is burnt at these times. No native nor foreigner, if married, is allowed to quit the country.

Amusements, Public Taste, &c.—The Anamese are very fond of dramatic representations, which are performed in pavilions for several days together with little intermission, and to which no entrance-money is required, the actors depending on voluntary contributions. The plays consist of historical operatic pieces, or of a light and comic dialogue, interspersed with cheerful airs, each concluding with a common chorus. Their dancing and music is in exact time, the latter not destitute of melody, not unlike some Scotch airs. The instruments in use are gongs, drums, violins, flutes, guitars, and trumpets sufficiently harsh and grating; but the applause is always in proportion to the noise made. They have some notion of sculpture, the best specimens of which are seen on tombs. They are fond of shuttlecock and football, cock and quail fighting, the tricks of jugglers, &c.; and the upper ranks of elephant, tiger, or buffalo hunting, and fireworks, cards and dice, without, however, being addicted to gambling.

Dress—Is the same as that of the Chinese before the Tartar conquest, consisting of loose trousers, tied round the waist with a sash; several loose frocks of different lengths, the upper one the shortest, and having long loose sleeves, a small close collar, and five buttons and loops; a broad basket-work hat, or a turban of crape; slippers by which the feet are not cramped like those of the Chinese; hair long, and turned up in a knot on the top of the head. The dress of both sexes is alike, only in that of the women the frocks are longer, and they wear bracelets and armlets of pearl, of ivory, earrings, and other ornaments. Dress is an object of great attention with all classes.

Language.—The language of the Cochin Chinese, like their dress, &c., has been derived from that of China: it is monosyllabic, destitute of inflexions, its written character like the former, although it possesses several elements, as the B, D, and R, which the Chinese are unable to pronounce. The Cambodjans speak a different language, and the people of Tsampa another distinct from both. Literature is confined to Chinese books, chiefly on medicine, and the works of Confucius.

History.—In 234 B.C. this country was conquered by the Chinese, who held it till A.D. 263. In 1406 it was reconquered by the Chinese, who abandoned it again in 1428. In 1471, Cochin China was completely subjected by Tonquin; but in 1553 threw off the yoke, and, until 1748, was governed by both a nominal and real sovereign, the latter of whom was a military commander and regent. The nominal sovereigns then obtained the mastery, and ruled in the midst of anarchy till 1774, when, in the reign of Caung-shung, the revolution of Nhac (*Pinyac*) and his brothers overturned their power. Bishop Adran, a French missionary, the tutor of the late king's son, obtained for him the alliance of Louis XVI., and, with the aid of a few of his countrymen, was the main cause of the restoration of his pupil Gia-

long to the throne of his ancestors, on which he was firmly seated in 1802. Adran reformed the jurisprudence, commenced public works, surveyed the coasts, promoted trade, established naval arsenals, and new disciplined the king's army; but dying soon after, many of his wholesome reforms sank into disuse. Gia-long died in 1819, and was succeeded by an illegitimate son, who was invested, in 1821, by the court of Peking with the empire of Tonquin and Cochin China.

ANAM.—THE FRENCH COLONY. Before the French revolution the government of Louis XVI. made great endeavours to obtain a footing in Cochin China, and they were successful for a time, causing many of the places to be fortified in European fashion, introducing French officers into places of authority, and generally modifying the government according to European ideas. In the beginning of the present century these changes had become obsolete; but, in 1860, a powerful Franco-Spanish expedition reduced the city of Saigon, which was made the capital of a new French colony. The territory of this colony comprises the three provs. of Dongnai, Bien-hoa, and Saigon, or that part of the country extending east of the Cambodia 85 m. in a direct line, and north on the Cambodia to 11° 10' north, 130 m. along the river course. (See SAIGON.) In some quarters in India, the position of the French is viewed with some concern, more especially since the French have recognised the sovereign of Cambodia as independent, while he is really dependent on Siam, an empire on terms of enmity with the Burmese province of India. The French are endeavouring to attract the commerce of the provinces of China bounding the Anamite empire on the north, down the Cambodia river, while British merchants, both in India and at home, favour a scheme to construct a road into these Chinese provinces from Rangoon.

ANAPA, a sea-port town and fortress of European Russia, Circassia, on the NE. coast of the Black Sea, 47 m. SE. Yenikale, lat. 44° 54' 52", long. 37° 16' 21" E. Pop. ex. of military, 8,000. The fortress, constructed by the Turks in 1784, was taken by the Russians in 1791, and in 1807, and finally in 1828, since which it has been definitively ceded to them. The houses are mostly mere cabins, built of wood and mud. The inhabitants consist of Circassians, Turks, Tartars, Greeks, Jews, Armenians and Russians. The port, or rather road, is nearly open, with bad holding ground, and so shallow as to admit only ships of small burden. Anapa is at present principally important as a military post; but were tranquillity restored in Circassia, it would most likely become the seat of a considerable commerce. The exports are grain, tallow, and butter, hides, peltries and wax.

ANCENIS, a town of France, dep. Loire Inférieure, on the Loire, 21 m. ENE. Nantes. Pop. 4,628 in 1861. It is well built, has a handsome college, an hospital, and barracks. There are coal and iron mines in the neighbourhood; and it has a good deal of trade in wine, vinegar, brandy, and timber. Its port serves as an entrepôt and station for the vessels navigating the Loire. The town is commanded by a Gothic castle placed on a steep hill.

ANCKERVILLE, a town of France, dep. Meuse, 11 m. SSW. Bar-le-Duc. Pop. 2,003 in 1861.

ANCHOLME (ISLE OF), see LINCOLNSHIRE.

ANCONA, a marit. city of Italy, on the Adriatic, 17½ m. SE. Sinigaglia, 15 m. NNW. Loreto, and 188 m. NE. Rome, lat. 43° 37' 42" N., long. 13° 30' 35" E. Pop. 46,090 in 1862, of whom many are Greeks and Mohammedans, and exclu-

size of 1,800 Jews who inhabit a separate quarter. It is the seat of a civil tribunal, of a tribunal of original jurisdiction, and of a bishopric; is built amphitheatre-wise, on a sloping ground, declining to the sea, between two hills, on one of which stands its cathedral, on the other its citadel; streets narrow, dirty, and irregular; but many houses spacious and elegant; quay fine; port formed by a mole 2,000 ft. in length, 100 do. in breadth, and 65 above the sea, having at its extremity a lighthouse, with a handsome revolving light. The mole being hooked at the extremity, vessels may lie immediately within the harbour in from 7 to 8 fathoms; but it shoals rapidly, and vessels drawing more than 15 or 16 feet water should anchor within a short distance of the entry. There is good anchorage ground about $\frac{1}{2}$ m. without the mole, in 10 and 12 fathoms. The harbour is rapidly improving under the present Italian government, several dredges of late years having been kept constantly at work increasing the depth of the harbour. On the mole stands a noble ancient triumphal arch, in honour of the Emperor Trajan, who improved and embellished the town and port: it is formed of large blocks of white marble; and it has also another arch in honour of Pope Benedict XIV. The cathedral, situated on a bold promontory on the site of an ancient temple of Venus, has a curious porch, supported by two lions of Egyptian granite; a very ancient altar, and many fine marble pillars. There are 10 other churches, containing many good paintings; 15 convents, a college, and two hospitals. The palace of the delegate, the exchange, the town-house, and the fortifications, particularly the citadel, are also worthy of notice.

Its manufactures, chiefly in the hands of the Jews, consist principally of wax, tallow, silk hats, and paper. The harbour is well adapted for building and repairing ships, and is frequented by those of all nations. It was made a free port by Clement XII., and has a more considerable trade than any other town on the W. coast of the Adriatic, Venice excepted. This trade is now on the increase, outside the harbour is a fine lazaretto, on an artificial island, communicating with the town by a bridge. The market-place is spacious, and the town is well furnished with cheap and good provisions. The women are said to be remarkable for their beauty. The town is now connected by railways with Rimini and Pescara. Steamers leave for Corfu, Patras, Athens, Smyrna, and Constantinople. Exports, corn, hemp, bacon, sulphur, and tallow. Imports, colonial goods, drugs, and metals, and large quantities of coal from Britain. Exports 1863 92,245*l*.; imports 317,119*l*.; of which the British share was 26,489*l*. and 196,520*l*. respectively.

Ancona is said by Strabo to have been founded by a colony of Syracusans in the time of Dionysius. The Romans established themselves in it B.C. 264. Being justly regarded as a naval station of great importance, Trajan expended large sums upon it, and built the mole; A.D. 592, it was occupied by the Lombards; in 839 it was sacked by the Mussulmans; and it afterwards formed an independent republic, till 1532, when Bernardino Barba, under pretext of defending it against the Turks (having built the citadel which entirely commands the town), placed it in the hands of the Pope. In 1799 it was taken by the French, and in 1809 formed the chief city of the dep. of the *Metauro*. In 1814, it was restored to the Papal see. In Feb. 1832, a detachment of French troops landed unexpectedly, and took possession of the citadel; which the French government announced its resolution to retain so long as any Austrian

troops remained within the Papal territories; the latter, however, having been withdrawn, the French evacuated the town in the course of 1839. In the year 1849 the town having shared in the revolution in the Roman States, was bombarded and then occupied by Austrian troops and held by them till 1859. On 29th October 1860 it surrendered to the Piedmontese troops, and has since formed part of the Italian kingdom. (Rampoldi, *Corografia dell' Italia*, vol. i. p. 80; Consular Reports, 1863-4).

ANCY-LE-FRANC, a town of France, dep. Yonne, cap. cant. on the canal of Burgundy, 10 m. SE. Tonnerre. Pop. 1,839 in 1861. It is neat and well-built, but is chiefly remarkable for the magnificent castle in its vicinity, built after the designs of Primaticcio, belonging to the descendants of Louvois, minister of Louis XIV. It is surrounded by a beautiful park, and has fine gardens.

ANDAD KHAN, or ANDEJAN, a town of Independent Tartary, Khanat of Khokan, on the Sihoun (*Jaxartes*), 55 m. E. Khokan, lat. 41° 20' N., long. 71° 27' E. It is surrounded by gardens, and is a place of considerable size and antiquity.

ANDALUSIA, a district of Spain, so called, either from the Vandals who settled here in the fifth cent., or from an Arabic word, signifying *Land of the West*. It is the most S. division of Spain, comprising the four Moorish kingdoms of Seville, Cordova, Jaen, and Granada, between 36° 0' and 38° 38' N. lat., and 1° 37' and 7° 25' W. long., having N. Estremadura and La Mancha; E. Murcia; W. Portugal; and S. the Atlantic Ocean, the Str. of Gibraltar, and the Mediterranean: length, E. to W., about 350 m.; greatest breadth nearly 200 m.: area, 27,158 sq. m. Pop. 3,927,357 according to the census of 1857, being an increase since 1846 of 1,569,298. Andalusia is at present divided into eight provinces, viz.—Seville, Cadiz, Cordova, Granada, Jaen, Malaga, Almeria, and Huelva. Its chief cities are Seville, Cadiz, Cordova, Jaen, Almeria, Granada, Malaga, Huelva, and Gibraltar. Two ranges of mountains traverse it from E. to W.: the most S. of these ranges is the loftiest, and has several points covered with perpetual snow; the highest, Mulhacen, being 11,678 ft. above the level of the sea. The Sierra Morena belongs to the N. chain, and forms part of the N. boundary of the district. Between these two ranges flows the Guadalquivir, by far the largest of the Andalusian rivers, and swelled by numerous streams from the lateral valleys opening into its basin. There are numerous small lakes. On the coast, the climate is hot and oppressive; but N. of the Sierra Nevada, the temperature is more equable, and cooler, although it never freezes. The primitive rocks of the high S. mountains are chiefly mica-slate, gneiss, and clay-slate, covered in some parts by black transition limestone, containing sulphuret of lead. Serpentine marble, and alabaster, are found in Granada; and there are numerous mines, that either produce, or have produced, gold, silver, copper, antimony, mercury, iron, lead, vitriol, coal, and sulphur; but, with the exception of the lead mines of Adra, near Malaga, they are at present mostly in a neglected state. The vegetation partakes of the European and African characters: mastic, olive, myrtle, palms, bananas, &c., abound in the central parts of the country, but on the S. shores those common to Europe almost wholly disappear, and the sugarcane and cotton are cultivated. Wheat, barley, fruits of all sorts, and wines, are abundantly produced; the chief wines are those of Xeres (sherry), Pajarete, Malaga, and Montilla; silk is also an article of considerable culture. There are many rich pasture-lands; and the cattle and horses, es-

pecially the latter, are renowned as amongst the best in Spain. The wolf and boar are the only formidable wild animals; there is plenty of game, an abundance of fish, and none of the most venomous reptiles: the cochineal insect is successfully cultivated near Cadiz. Most part of the country is parcelled out into vast estates, belonging to grantees, the church, and corporations. Agriculture is in a very backward state. The greater part of the country is appropriated to pasture, the traveller often journeying many miles without seeing a single house, or any symptoms of cultivation; and, notwithstanding the fertility of the soil, there is annually a considerable importation of corn from the opposite coast of Africa, Sicily, and the Black Sea. The occupiers of the land mostly live together in towns and villages; their rents are usually paid on the *métayer* principle, and they are at once ignorant and poor; the inhabitants of the mountainous and less fertile districts are, as might be expected, the most industrious. The chief manufactures are those of woollens, silk, and leather; and but for oppressive custom laws, there would be a more considerable trade than there is both with other parts of Spain and foreign countries. Cadiz is the chief port.

The Andalusians are a mixed race, descended from Africans, Carthaginians, Romans, Goths, Vandals, and Moors. They retain much resemblance, both in person and manners, to the latter; although light hair, eyes and complexions, are by no means unfrequent. When they have any motive to exertion, they are not deficient in industry, and are intelligent and imaginative. Andalusia has produced many good poets and distinguished men in all ages: Trajan, the Senecas, and Silius Italicus were natives of this prov., with Murillo the painter, and some of the best lyric authors of modern Spain.

ANDAMAN ISLANDS, a lengthened narrow group of islands, none of which are of any very considerable magnitude, in the E. part of the Bay of Bengal, stretching N. and S., between 10° 30' and 18° 40' N. lat., under about 92° 50' E. long. They are within the full sweep of the SW. monsoon, and are washed for eight months a year by incessant rains. They produce many large trees, that might furnish timber and planks for the construction of ships, and for the finest cabinet work. The quadrupeds are but few, consisting principally of a diminutive breed of swine and rats. Among the birds is the swallow, that produces the edible nests so highly esteemed in China. Fish are generally plentiful, but occasionally scarce. The inhabitants, who are not supposed to exceed 2,500 or 3,000 in number, seem to be a peculiar race in the lowest state of barbarism. They seldom exceed 5 feet in height, have protuberant bellies, limbs disproportionally slender, skin a deep sooty black, hair woolly, nose flat, lips thick, eyes small and red, their countenances exhibiting the extreme of wretchedness—a mixture of famine and ferocity. They go quite naked, and are insensible to shame from exposure. They have made no effort to cultivate the ground, and are found only on the sea-coast, depending principally for subsistence on fishing. Their implements are of the rudest texture; but they use them with great dexterity, particularly in spearing and capturing fish. They are skilful as rowers, and in the management of their boats. They have no utensil that will resist fire, and dress their food by throwing it on the live embers, and devouring it half broiled. Their habitations display little more ingenuity than the dens of wild beasts, being mere huts, formed of four irregular posts stuck in the ground and covered with palm leaves. Being much incommoded by

insects, their first occupation in the morning is to plaster their bodies all over with mud, which, hardening in the sun, forms an impenetrable armour. They paint their woolly heads with red ochre and water, and, when completely dressed, have a most hideous appearance. They have an intense hatred of strangers, with whom they cannot be persuaded to hold any intercourse. They are supposed to worship the sun and moon; and during storms and tempests, endeavour to avert the wrath of the demon by whom they suppose them to be produced. Their language is peculiar, and is not known to have the slightest affinity to any spoken in India, or in any of the Indian islands. They have been said to be *anthropophagists*, but this is not confirmed by the latest visitors. Some have supposed them to be a race of degenerate negroes; but this appears not to be the case. No distinct resemblance can be traced between them and any other race—Malay, Australasian, or others—a descent from one or other of whom might have been looked for, and they most resemble a dwarfed and undeformed European race. Their want of correspondence with any other type raises an interesting question in ethnology.

A British settlement was established at Port Cornwallis, on the largest of the islands, near the NE. extremity of the group, in 1793. The harbour is excellent; and the settlement was designed for the reception of convicts from Bengal, and for the security of shipping during the monsoons; but the situation turned out so very unhealthy, as to occasion its abandonment in 1796. Since then they have been but seldom visited, except in 1824 and 1825, when some of the ships, on their way to Rangoon, touched at the islands. On one of these occasions the natives attacked a party watering with the utmost fury; and were not repulsed without great loss on their side, and after they had killed one soldier, and wounded three others. A place on one of the islands, Port Blair, was selected as a penal settlement for the Sepoy rebels in 1858. (Symes, Embassy to Ava, pp. 127-138, 4to. ed.; and Mouat's Adventures and Researches among the Andaman Islanders, 1863.)

ANDELYS (LES), two towns of France, within a very short distance of each other, dep. Eure, cap. arrond. one on the Seine, and the other a little inland, 10 or 11 m. E. Louviers. Pop. 5,137 in 1861. The greater Andely is ill built, with narrow crooked streets; but it has a fine collegiate church. The lesser Andely has to boast of the magnificent ruins of the château Gaillard. There are manufactures of fine cloth, kerseymeres, ratons, cotton yarns, and paper, with tanneries. Nicholas Pousin, the famous painter, was born in the hamlet of Villers, near the greater Andely, in 1594; and a monument has been erected to his memory in that town.

ANDENNES, a town of Belgium, prov. Namur on the Maese, 13 m. E.N.E. Namur. Pop. 6,312 in 1856. There are manufactures of earthenware and porcelain, and of pipes formed of the clay found in the neighbourhood.

ANDERNACH (the *Antunacum* of the Romans), a town of the Prussian prov. of Lower Rhine, on the left bank of the Rhine, 10 m. NW. Coblenz, on the railway from Cologne to Coblenz and Mayence. Pop. 4,257 in 1861. It is situated in a country formerly volcanic, and its massive towers, turrets, and ruined walls are admirably suited to the sombre scenery by which it is surrounded. Streets narrow and ill paved, and the houses gloomy, old, and out of repair. There is a fine old archway, supposed to be Roman, forming the gate of the town on the side next Coblenz; and below it, in a line towards the river, are the ruins of an

extensive palace, or castle, supposed to have been built by the Goths soon after the expulsion of the Romans. The town exports mill-stones made of porous lava, and large quantities of pounded *tufa*, denominated *trass*, a cement which, when mixed with water, becomes as hard as stone. The former is in great demand in most parts of Europe; the latter is principally used by the Dutch in the construction of their dykes, but is also exported to other countries. Immense rafts of timber from the German forests, destined for the Low Countries, are formed near Andernach.

ANDES (THE), an immense mountain range, runs along the whole W. coast of S. America, covering with its chains, declivities, and valleys about a sixth part of that continent. The *Cordillera*, a name sometimes given to this chain, is properly applicable only to the innermost and highest ridge of the mass.

Cape Horn, on Cape Horn Island, in about 56° S. lat., may be considered as the S. extremity of the Andes. The most N. chain of the mountains is the Paramo de las Rosas, which extends to the E. of Lake Maracaybo, and terminates at about 9° N. lat. The whole system is thus found to extend lengthwise over 65 deg. of lat. Its width varies very much; in some parts it occupies only between 30 or 40 miles across, in others it covers with its branches and valleys a country extending 500 miles and upwards from E. to W.

Beginning at the southern extremity, the Andes commence at the Cape of Good Success, on the W. shores of the Straits of Le Maire, in about 70° W. long. Even the high rocky mass which constitutes the island of Staaten Land, and extends more than a degree farther E., may be considered as a continuation of this range, from which it is separated only by the Straits of Le Maire, between 30 and 40 m. across. From the Cape of Good Success the range runs W. along the S. shores of King Charles's Southland, the most extensive of the islands constituting the S. Archipelago of America, commonly called Tierra del Fuego. It covers about a third part of the surface of that island, as well as the whole of the islands lying S. of it; as Navarin, Hoste, Wollaston, Hermit, and Cape Horn. Towards the Straits of Le Maire, the range consists of rocky hills, of no great elevation; but farther W. they rise to an altitude of 2,000 or 3,000 ft. Cape Horn itself is a conspicuous rock, with a steep ascent, upwards of 3,000 ft. high. Mount Sarmiento, near Magdalen Channel, is the highest summit, and rises 6,910 ft. above the sea.

In the W. part of King Charles's Southland, the range extends over the whole district S. and W. of Admiralty Bay. Farther W. it changes its direction, running in a NW. direction as far as the Frith of Sansalid (Ancon Sansalida de the Spaniards), 52° S. lat., and 78° W. long. This part of the range, whose mean width may be about 100 or 120 miles, is longitudinally divided by that portion of the Strait of Magalhaens which extends from Cape Froward to Cape Victoria. Two transverse channels divide the S. portion into two islands. The E. or Magdalen Channel separates Clarence Island from King Charles's Southland; and the W. extends between Clarence Island and South Desolation; the latter bears the name of Barbara Channel. That part of the range which lies to the NE. of the strait is intersected by two deep transverse inlets. The south-eastern, called Jerome Channel, terminates on the E. in two large lagoons, called Otway and Skrying Waters, which are both situated on the eastern side of the Andes in the plains of Patagonia. By this extensive inlet, Brunswick Peninsula is divided from King William's Land. The NW. transverse inlet bears

the name of Smyth's Channel, and divides first King William's Land from Queen Adelaide's Archipelago, and afterwards joins the Frith of Sansalid, which likewise penetrates through the whole chain of the Andes, and terminates with its numerous branches in the plains of Patagonia. South of this frith the mountains rise somewhat higher than on King Charles's Southland, but their mean elevation does not exceed 4,000 ft. above the sea.

The mountain range south of the Frith of Sansalid may be called the *Magalhaens Andes*, extending principally on both sides the strait bearing that name. It consists of islands and peninsulas intersected by deep but narrow arms of the sea. The summits of the mountains are covered with eternal snow, the snow line occurring in these countries at about 3,500 feet above the sea. The lower parts of the mountains and the steep and rocky shores of the islands are partly covered with evergreen woods; except towards the ocean, where they present the aspect of bare black rocks.

At the Frith of Sansalid begins the uninterrupted chain of the Andes. At this place it again changes its direction, running due N. with slight bends as far north as the Bight of Arica (18° S. lat.). It comprehends the Patagonian Andes between 52° and 42°, the southern Chilean Andes between 42° and 35°, and the northern Chilean and Atacamean Andes between 35° and 20° S. lat.

The *Patagonian Andes* extend from the Frith of Sansalid to the N. corner of the Gulph of Ancud, opposite the island of Chiloe. They are only known from the side of the ocean, whence they rise to a considerable height with an extremely steep ascent. It would seem as if the range in this part had once occupied a much greater breadth, and that by some extraordinary convulsion the whole of the western declivity, with the summits of the range, had been broken down and buried in the ocean, so that only the eastern declivity has remained standing. The numerous and rocky islands which skirt this shore in all its extent, except at the protruded cape of Tres Montes, appear to support such a supposition. The eastern declivity of the range has not been examined; but what we know of it seems to be sufficient to warrant the supposition that in this part the Andes occupy a width of only from 30 to 40 miles. The mean height of the Patagonian Andes may be estimated at about 5,000 or 6,000 ft., and the extreme height 8,030 ft. But snow mountains, and even glaciers, are stated to be frequent. The lower part of the declivity is covered with trees and shrubs, the upper part bare, as also those portions of the shore which are exposed to the immediate effects of the gales blowing from the Pacific.

The *Southern Chilean Andes* extend from the most N. corner of the Gulph of Ancud (42° S. lat.) to the lofty summit of Aconcagua, in about 32½° S. lat. and 70° W. long. Towards the S. extremity the Andes keep for some extent a distance of about 150 miles from the shores of the Pacific, the greatest which they attain in their whole course; but towards the N. they gradually approach it to within about 100 miles. Between the Andes and the shore are extensive plains, from 1,200 to 2,000 ft. above the sea; and from these plains the mountains rise with an extremely steep acclivity to the mean elevation of 13,000 or 14,000 ft. above the sea. Some summits attain 15,000 and even 15,500 feet. Though our knowledge respecting this part of the Andes be comparatively scanty, it would seem that they form one extensive mass from 60 to 80 miles across, which, however, in its upper part is furrowed by a longitudinal valley, divided by short transverse ridges into several shorter valleys. This great mass of rocks is mostly clothed

with forest trees and a rich vegetation; but in the interior it presents only bare rocks, nearly without plants of any description.

Three passes are known to traverse the Chilean Andes. That farthest S. skirts the high volcano of *Antuco*, between 37° and 36° S. lat., leading from the small town of Tucapel to the great plains E. of the Andes. It is also used by the aborigines inhabiting these plains, who bring to Chile salt and some commodities. The second road traverses the *Pass del Planchon*, which crosses the mountain ridges near 35° S. lat., beginning on the west at the village of Curico, and leading to the territory of the Pehuenches, who occupy the E. declivity of the Andes, and thence to Mendoza. It is said to be the lowest of the mountain passes of the Andes, vegetation ascending up to the highest part of the road; it is farther stated to be more gentle in its ascents and descents. Yet it is little used, except by persons trading with the Indians in the Pampas. The third pass is that of *Portillo*, which at first runs along the river Mayo, S. of Santiago, the capital of Chile, and afterwards crosses the two ridges of the Andes which enclose the valley of Tunuyan. On the W. ridge the road rises to 14,862, on the E. to 13,210 feet above the level of the sea. From the latter it descends to the plains, and leads to Mendoza. It is the nearest way between the last-mentioned town and Santiago, the capital of Chile, and is therefore sometimes, but not frequently, used. There is also the pass of San Francisco, and other passes to be described in speaking of the proposed railway and new roads across the Andes. (See end of this article.)

There is some doubt as to the exact height of the summit of Aconcagua; but it certainly exceeds 23,300 ft.; and is, therefore, entitled to be regarded as the culminating point in this vast chain. N. of this summit the Andes, which farther S. form only one enormous mass of rocks, divide into two masses, which enclose long and wide valleys considerably lower than the surrounding ridges. The first valley of this description is that of Uspallata, which extends about 180 or 200 miles S. and N. It is traversed by two rivers; the Rio de Mendoza, which flows S.; and the Rio de S. Juan, which runs N. The watershed between them lies N. of 32° S. lat. This valley is about 15 miles in width, and presents an undulating surface. It is about 6,000 feet above the level of the sea. The range E. of it, called the Paramillo de Uspallata, seems not to exceed 10,000 ft.; but the W. or principal range attains 14,000 ft. and upwards. The former is about 25, and the latter more than 70 miles across. The E. range has two narrow breaks, by which the two rivers of the valley find their way to the plains extending E.

Over these two ranges, and through the valley of Uspallata, lies the most frequented mountain road crossing the Andes. On the west it begins at the town of Santa Rosa, in the valley of the Quillota river (2,614 ft. above the sea); it next follows the bed of that river for a great distance, and then crosses the high range nearly at equal distances from the mountain summits of Tupungato and Aconcagua (between 33° and 32° S. lat.). The Cumbre or highest point is 12,454 feet above the Pacific. Hence the road descends along the Rio de Mendoza into the valley of Uspallata, passes the Paramillo range, and enters the plains near Villa Viciosa, whence it runs along the last-mentioned mountain chain to Mendoza (2,608 ft. above the sea); from Mendoza it leads over the Pampas to Buenos Ayres. Though much frequented, it cannot be passed by carriages, and only mules are used for the transport of commodities, and by passengers. In winter (from June to September) the

passage is very dangerous, on account of the heavy falls of snow, which cause frequent losses of life and property. The pass is by some named that of the Cumbre, and by others of Uspallata.

N. of the valley of Uspallata the Andes continue to form two ranges, including extensive longitudinal valleys. The first in order is that of Aguastata, of which we know only that its soil is sterile, but its mountains rich in metallic ores. Then follows the valley of Andalgalá, which is entirely unknown. The latter extends to 23° S. lat. A great number of mountain passes are stated to exist over the W. range enclosing these valleys, which would indicate that the mean elevation of the Andes is here much less than in other parts. But none of these passes seems to be much used, nor has any of them been visited by European travellers. It is, however, known that towards the Pacific this range does not descend with a short and rapid declivity, as in the S. Chilean Andes, but by table lands in the form of terraces, which near the principal chain are 5,000 feet and more above the sea, but lower by degrees as they approach the ocean, where they still form a shore from 300 to 500 feet high. Being furrowed by deep water-courses, these table-lands, when seen from the banks of rivers, appear frequently like mountains of considerable height.

From their farthest S. point as far as the N. point of the valley of Uspallata, the Andes do not send out lateral branches. But from the E. range, including the valleys of Aguastata and Andalgalá, several ranges branch off into the E. plains, and extend in a S. and E. direction to a distance of from 200 to 250 m. By these lateral chains the countries extending E. of the Andes, between 33° and 23° S. lat., are rendered hilly, and in some districts even mountainous. In the S. districts the height of the ranges is not considerable, but farther to the N. it increases greatly; and the chain, which branches off at the N. end of the valley of Andalgalá, and forms at present the boundary between the republics of Buenos Ayres and Bolivia, may attain a height of 10,000 ft. above the sea. It terminates at no great distance from the point where the Rio Grande enters the Rio Vermejo.

Between 28° and 20° S. lat. the principal range of the Andes seems to constitute a single chain, rising to a mean height of above 15,000 feet. In it stands the Nevado de Chorolque, which is stated to rise 16,548 ft. above the sea. From this chain several lower and narrow ridges run E. 120 or 150 m. The S. districts of Bolivia are in consequence rendered a succession of valleys and mountains. However, these ridges do not attain a great elevation over the plains on which they rise. A road traverses the principal chain; it begins on the coast of the Pacific at Cobija, or Puerto de la Mar, the principal harbour of Bolivia, passes over the high Andes of Lipéz near the volcano of Atacama, and descends to Tupiza; hence it runs to Potosí and Chuquisaca. This road is not much used, on account of the sterility of the surrounding country, and the difficulty of procuring provender for the mules and other animals of burden. In some parts water too is extremely scarce.

Near 20° S. lat. is the mountain knot of Porco. Here begin the *Bolivian Andes*, which extend to 14° S. lat., and may be considered as constituting the central portion of the whole mountain system. In no other part do the mountains generally attain an equal height, nor do they cover so great a surface. The chain, which previously formed one great undivided ridge, here diverges into two smaller ridges, the one to the E. being denominated the Cordillera de Ancuma, and that to the

W. the Cordillera de los Andes, or of the coast. They unite again in about 14° or $14\frac{1}{2}^{\circ}$ S. lat., enclosing between them the great Alpine valley, sometimes called Titicaca, from the famous lake of that name, and sometimes Desaguadero from the river which flows from it. This immense basin is about 335 m. in length from N. to S.; its breadth, which is different at different places, may be estimated at about 55 m. at a medium, making its area about 18,425 sq. m., of which the lake is reckoned at about 4,000 sq. m. The latter is at the prodigious elevation of 12,847 ft. above the level of the sea; and the mean height of the mountains by which it is surrounded cannot be less than 14,000 ft. The highest summits on each side ascend far above the line of perpetual snow. The Cerro da Potosi, near the S. extremity of the range, attains to an elevation of 16,152 ft.; and farther to the N. Illimani and the Nevado de Zorata in the E. chain rise respectively to the height of 21,140 and 21,286 ft. But the peaks in the W. chain are still higher, Sahama, in lat. $18^{\circ} 8' S.$ being 22,350 ft. above the sea, Parinacota, 22,080 ft., and the volcano of Arequipa 20,320 ft. These and other altitudes have been determined by Mr. Pentland. South of $17^{\circ} S.$ lat., the two ranges run nearly due S. and N., but N. of that parallel SSE. and NNW. At their N. extremity ($14^{\circ} S.$ lat.) they are united by a transverse range, which extends NNE. and SSW. It has several summits covered with perpetual snow, but their elevation has not been ascertained.

The plateau or valley of Titicaca does not present a level plain; those portions of it which are continuous to the ranges being covered with mountains, or rather hills, rising several hundred and sometimes even a thousand feet above their bases. But the internal districts preserve notwithstanding a sufficiently level surface. The Desaguadero, which issues from the S. extremity of the lake of Titicaca, flows S. till about $19\frac{1}{2}^{\circ} S.$ lat., when it is lost in a small lake. The former lake is famous in the history of Peru, for being the scene of the miraculous appearance of Manco Capac, the founder of the Inca dynasty. He is said to have inhabited the largest of its many islands, which was, therefore, held in peculiar veneration. Succeeding Incas erected on it a magnificent temple, which became to the Peruvians what the temple at Mecca is, or rather was, to the Mohammedan world; for it was incumbent on all Peruvians to visit it, and to bring with them rich offerings. Hence its wealth became immense. It is stated that when the Spaniards took possession of the country, the natives, to dis appoint the avarice of the conquerors, and prevent the pollution of the temple, threw its treasures into the lake, and rased the fabric to the foundation. Some ancient ruins are still to be found on the borders of the lake, and Mr. Prescott supposes it to have been the seat of civilisation anterior to the era of the Incas.—(Hist. of Peru, I. 11th ed. 1844.) The storms that rush from the mountains render the navigation of this lake peculiarly dangerous. Its waters are said to be bitter or brackish; but they are drunk by the cattle in the vicinity. The lake is well stocked with trout and other fish.

The ranges enclosing the alpine valley of Titicaca are traversed by several mountain roads, of which the following are the most frequented:—that through the pass of Potosi, traversing the Puerto between the Cerro of Potosi and that of Huayna Potosi: it leads from Potosi to Oruro, and rises in its highest point to 14,320 feet. The road over the pass of Condur Pacheta, between Oruro and Cochabamba, rises in its highest part to 13,950 ft. above the sea. The road through

the pass of *Paruani*, leading from La Paz to the countries east of the ridges, rises to 15,226 ft. The most used road is over the western range, and that through the pass of *Las Guailillas*, leading from Arica on the coast, and Tacna, to La Paz, in the valley of Titicaca; it traverses the range at $17^{\circ} 50' S.$ lat., S. of the Nevado de Chipicani, where it rises to 14,830 ft. Farther N. ($16^{\circ} 2' S.$ lat.) is another road, which, connecting Arequipa with Puno, attains in the pass of *Altos de Toledo* an elevation of 15,528 feet above the sea.

Several lateral ridges run off from this great mass of rocks to the E.; but none of them seems to be distinguished by its height or extent, except the Sierra de Santa Cruz, which detaches itself from the principal range about $17^{\circ} 10' S.$ lat., and terminates near the banks of the Rio Guapai or Rio Grande, within a few leagues of the town of S. Cruz de la Serra. It extends about 300 miles, and is of considerable elevation in its western part, where it forms the Nevado de Tinaica, near Cochabamba; farther east it becomes gradually lower.

The *Peruvian Andes* occupy the next place, extending from 14° to $6^{\circ} S.$ lat. Between these latitudes they measure from 400 to 450 m. in width, and their area does not probably fall short of 200,000 sq. m. On their borders extend two ranges; of which the E., separating the mountain region from the great plains extending south of the Amazon, branches off from the E. extremity of the Andes of Vilcanota in a N. direction. It divides the affluents of the Ucayale from those of the Yavari, and terminates near $7^{\circ} S.$ lat., about 160 m. from the Amazon. We know very little of this range, but it does not seem to rise anywhere to a great height; probably none of its summits exceed 10,000 feet above the sea.

The W. range of the Peruvian Andes, which, with its W. declivities, approaches the Pacific Ocean to a distance of 50 m. or less, must be considered as the principal chain, on account of its height and breadth, and because it forms with the N. parts of the Andes an uninterrupted chain. It may be said to commence near the Nevado de Chuquebamba, where the Andes of Vilcanota join the W. range of the valley of Titicaca. It is remarkable that the Peruvian Andes seem to be rather a continuation of the Andes of Vilcanota than of the great W. chain; for near $16^{\circ} S.$ lat. and between 71° and $75^{\circ} W.$ long. the Peruvian Andes extend in a direction E. and W., whilst three degrees farther S. the Bolivian Andes run S. and N. In this portion of the Andes are some very high summits. Besides the Nevado de Chuquebamba, already noticed, are the Cerro de Huando and the Cerro de Parinacocha, whose elevation, however, has not been determined. Near $75^{\circ} W.$ long. the principal chain of the Andes declines to NW., and runs in that direction to the neighbourhood of Cape Parina, the most W. extremity of S. America. In the S. portion of this chain several summits rise above the snow line, but the elevation of none of them has been determined. The best known are, the Toldo de la Nieve, seen from Lima, to the SE. of which it is situated; the Altunchagua, near $10^{\circ} S.$ lat.; and the Nevado de Hauyllillas, $7^{\circ} 50' S.$ lat. But between the last named snow-peak and Mount Chimborazo, in the Andes of Ecuador, or Equator ($2^{\circ} S.$ lat.), there is no summit which attains the snow line.

The country lying between the two outer ranges of the Peruvian Andes presents a continual succession of high ridges and long valleys, here and there intermixed with plains of moderate extent. It forms the best portion of the republic of Peru.

The most remarkable district seems to be the plain of Bombon, near 11° S. lat., which is 18,000 feet above the level of the sea, and extends about 18 miles in width from E. to W., and 40 or 50 from S. to N. A great part of this elevated plain, which is enclosed by two ridges of mountains, and on which the argiferous Cerro of Pasco is situated, is covered with swamps. The water running off from them, and from the elevated ground, which frequently is covered with snow, is collected in several lakes, of which three are especially noticed, as giving birth to three considerable rivers. The farthest N. is the Lake of Llauricocha, from which the Amazon rises; the farthest S. is called the Lake of Quilacocha, which gives birth to the Sanja or Mataro, one of the principal branches of the Ucayale. Between these lakes is that of Chiquiacola, whence the Rio Huallaga issues. The plain of Bombon is farther to be considered as a mountain knot, from which different ranges branch off in different directions. Besides the principal range of the Peruvian Andes, which lies contiguous to it on the W., two mountain chains run off from it to the N., and one to the S. The most W. of the two N. chains runs nearly parallel to the principal range of the Peruvian Andes, and forms the E. boundary of the valley of the Marañon or Upper Amazon. It rises to a great elevation, but does not enter the snow line. One of its farthest N. branches extends close to the banks of the Amazon, where it forms the famous Pongo, or cataract of Manseriche. A lateral ridge of this chain, branching off from it at about 7° , runs E., and terminates on the banks of the Rio Huallaga, where that river forms its great cataract, or *pongo*. The farthest E. of the N. chains separates the valley of the Huallaga from the *pampas* of S. Sagramento, traversed by the Rio Ucayale. It is towards its beginning, in the mountain knot of Bombon, of great height, but lowers considerably farther N., terminating between 6° and 7° S. lat., at the Pongo of the Huallaga. The S. chain, issuing from the plain of Bombon, runs SSE., nearly parallel to the principal range of the Andes, and encloses the rich valley of the Rio Sanja. It terminates in the most S. bend of that river, about 13° S. lat. and 74° W. long., and nearly opposite another range of high mountains, which issue from the Andes of Vilcanota, and run N., separating the valley of the Rio Apurimac from that of the Rio Quillabamba or river of Cuzco. The valleys enclosed by these several chains of mountains seem to have a mean elevation of from 8,000 to 5,000 feet above the sea.

The roads traversing the Peruvian Andes are somewhat imperfectly known. That most to the S. leads from Arequipa (near $16^{\circ} 30'$ S. lat.) on the coast to Cuzco in the valley of the Quillabamba, and traverses very high ranges of mountains. Another road leads from Lima to the town of Tarma, in the valley of the Sanja, and thence to Guancavelica, Huamanga, and Cuzco. It rises on the principal chain at the Portacuelo de Tucto to 15,760 feet above the sea. Farther north is the road passing over the plain of Bombon to the Cerro de Pasco. It traverses on the principal range two mountain passes, of which the W., called Alto de Tacaibamba, attains an elevation of 15,185, and the E., or Alto de Lachagual, 15,480 feet above the sea. Another road connects the town of Truxillo with the valley of the Marañon. It traverses the great range near the Nevado de Guayllillas, and leads to Huamachuco and Caxamarquilla; but we are not acquainted with its particulars.

The *Andes of Ecuador*, or the *Equator*, extend

to the N. of the Peruvian Andes. Their commencement may be fixed opposite the Punta de Aguja (6° S. lat.), and the place where the Marañon changes its NNW. course into a NNE. In the same parallel the chain also changes its direction. It runs between 6° S. lat. and the equator, nearly due north. This portion of the mountain system closely resembles the Chilean Andes. It constitutes one enormous mass of high rocks, of about 80 or 100 m. in width, overtopped longitudinally by a double series of very elevated summits, so that between them a succession of high valleys is formed. These Andes are also distinguished from those between 33° and 6° S. lat. by their not sending off to the E. lateral branches. Their eastern declivities are supported by short contreforts, which probably nowhere extend beyond 50 m. into the E. plains.

It is remarkable that the elevated valleys occupying the middle of the range rise in elevation as they advance farther N. That portion of the range which lies between 54° and 34° S. lat. is occupied by an extensive mountain knot, the Andes of Loxa, which, however, at no place attains the snow line. Then follows the longitudinal valley of Cuenca, which extends from $8^{\circ} 15'$ to $2^{\circ} 30'$, and rises to about 7,800 feet above the sea. On this side no snow mountains occur. The mountains of Assuay, which form the N. boundary of the valley of Cuenca, extending between the two outer ranges, rise to 15,500 feet above the sea, and enter the snow line; but they are narrow, occupying only about 3 min. of lat. (between $2^{\circ} 27'$ and $2^{\circ} 30'$). To the N. of them extends the longitudinal valley of Alausi and Hambato, which extends between $2^{\circ} 27'$ and $40'$ S. lat., and rises to about 7,920 feet above the sea. The summits of the ranges which enclose it on the E. and W. rise to a great elevation. On the western range stands the famous Chimborazo, rising 21,420 ft. above the level of the sea. It was until lately considered as the highest summit of the Andes; but it is now known that Aconcagua, and the high peaks of the Bolivian Andes, Paríacota and Sahama, rise considerably higher. On the E. range stand the volcanoes of Sangay, Collanes, and Llanganate. On the N. the valley of Alausi and Hambato is bounded by a narrow transverse ridge, the Alto de Chisimche, which hardly rises 300 ft. above the adjacent level ground. But at its extremities, and precisely on the lateral ranges, rise two very high summits; on the E. the volcano of Cotopaxi, attaining 18,800 ft.; and on the W. the Yliniza, attaining 17,876 ft. above the sea.

The valley of Quito extends from $40'$ S. lat. to $20'$ N. lat., and has an elevation of 9,600 ft. above the sea. It likewise is skirted by very high summits, on the E. by Antisana, which attains 19,136 ft., and by Cayambe Urcu, which attains 19,535 ft. above the sea. The summit of the latter mountain is traversed by the Equator. On the W. range the highest summits are the Pichincha, rising to 15,936 ft., and the Cotacachi, 16,448 ft. above the sea.

The three longitudinal valleys of Quito, Alausi, Hambato, and Cuenca, being only separated from each other by very narrow transverse ridges, may be considered as one valley, extending 240 miles in length, with a mean breadth of from 12 to 16 miles. They form the most populous and richest portion of the republic of Ecuador.

The northern boundary of the valley of Quito is formed by a transverse ridge between the Nevado of Cotacachi and the volcano of Imbabura ($21'$ N. lat.). To the N. of it lie the *Andes of los Pastos*, an extensive mountain region, which extends to $1^{\circ} 13'$ N. lat., and is crowned by several high

summits and volcanoes; as the volcanoes of Cumbal, Chile, and Pasto. The narrow valleys which lie between the different ridges by which it is traversed are, at a medium, 10,000 ft. above the sea.

This portion of the Andes is directed from SW. to NE., and may be considered as the centre of the N. Andes; for it is here that the chain begins to divide into two principal branches; the western of which is called Cordillera de la Costa or de Sindagua, whilst the E. bears the name of Andes de los Pastos.

The Andes of Sindagua have a break at about 1° 20' N. lat., by which the Rio de las Patias carries off the waters descending from the Andes de los Pastos and those which collect in the valley of Almaguer. This valley extends between 1° 18' and 1° 56' N. Its surface is very uneven, and its mean elevation may be about 6,900 feet above the sea. In the mountains which extend to the E. of it is a large alpine lake, the Cianega de Sebondoy, in which the Rio Putumaya or Ica, a large tributary of the Amazon, takes its origin. This E. chain expands considerably to the N. of 1° 56' N. lat., so as to form a mountain knot, which receives the name of Paramo de las Papas. A little farther north (2° 5' N. lat.) the knot divides into two chains of mountains, which advancing N. enclose the valley of the Rio Magdalena, as we shall see afterwards. From the mountain knot of the Paramo de las Papas a transverse ridge branches off westward, uniting the eastern chain of the Andes with the cordillera of Sindagua, and separating the valley of Almaguer from the great valley of the Cauca. Near the place where this transverse range leaves the mountain knot of los Pastos is the volcano de Puracé, 14,544 ft. above the sea. This volcano may be considered as the most N. point of the Andes of Equator, comprising those of Quito and of los Pastos.

The countries lying on both declivities and at the foot of the Andes of the Equator are very thinly inhabited, and almost entirely by aboriginal nations, unacquainted with civilisation and commerce. But the elevated valleys lying between the two ranges are comparatively well peopled, partly by the descendants of Europeans, and partly by Indians who have made some progress in civilisation, and are acquainted with the advantages of commerce. Hence the great commercial road which traverses this portion of the Andes runs longitudinally over the internal valleys, beginning on the north at Popayan (2° 26' 17" N. lat.) in the valley of the Cauca, and terminating at Truxillo (8° 5' 40" S. lat.) on the Pacific. From Popayan (5,724 ft. above the sea) it ascends the Alto de Roble (6,176 ft.), and then the Alto de Quilquase (6,416 ft.). Hence it descends to the Rio de Guachicon (3,042 ft.), whence it rises again by degrees to the town of Almaguer (7,440 ft.) in the valley of Almaguer. It next enters the mountains of los Pastos, passing over the Paramo de Purugay (9,408) to the village of Pasto (8,578 ft.). South of this it descends to the Rio de Guaitara (5,456 ft.), and again ascends a steep declivity to the village of Guachugal (10,320 ft.), whence it passes to the village of Tulian (10,112 ft.). Having traversed the Paramo de Boliche (11,504 ft.), and the Alto de Pucara (10,400 ft.), it descends by a steep declivity to the river Chota, which is passed at the Ponte de Chota (5,280 ft.), and hence it leads upward to the town of Quito (9,536 ft.).

From Quito the road runs over the plain to the Alto de Chisinché, which has a little more than 10,000 ft. of elevation. It next passes through the valley by Hambato (8,864 ft.), Riobamba Nueva (9,472 ft.), Guamate (10,224 ft.), and Alausi (7,984 ft.). Between the last-mentioned place and

the town of Cuenca is the famous and dangerous pass over the Paramo de Assuay, which in its highest point, the Ladera de Cadlud, rises to 15,536 ft., and is above the snow line. More or fewer lives are annually lost on this *paramo*. Cuenca is 8,640 ft. above the sea. Leaving this town the road descends to the Rio de Saraguru (7,376 ft.), and again rises to the Alto de Pulla (10,000 ft.), whence it passes to Loxa (6,768 ft.).

From Loxa the road passes to the W. declivity of the Andes, where it traverses Ayavaca (8,992 ft.) and Olleros (4,768 ft.), whence it repasses the range by the Paramo de Guamani (10,960 ft.), and enters the valley of the Marañon. In this it traverses Guancabamba (6,860 ft.), Zulaca (4,352 ft.), the Paramo de Yamoca (8,768 ft.), the Passo de Pucura (3,552 ft.), Montan (8,560 ft.), and Caxamarca (9,200 ft.). From the last-mentioned place it again passes the Andes to Guangamarca (8,000 ft.), and runs hence to Cascas (4,384 ft.) and Los Mokinos (608 ft.), terminating at Truxillo (200 ft. above the sea). Thus this long road runs continually over mountains in traversing 9½° of lat.

From Guayaquil a road leads to Quito. From the first-mentioned place it runs through the low grounds skirting the Rio de Guayaquil to Caracol, and then along the banks of the Rio Ojibar to Caluma, where the ascent of the mountains commences. The acclivity is extremely steep between Caluma and Chimbo, which is situated on an elevated country S. of the Chimborazo. From Chimbo the road leads to Mocha and Hombato, where it joins the great mountain road.

At about 1° 20' N. lat. the Andes of Sindagua branch off from the mountain knot of los Pastos. The E. range divides again at about 2° 5' N. lat. in two high mountain ranges. Thus, we find N. of the latter parallel the Andes divided into three distinct chains, which enclose the valleys of the rivers Magdalena and Cauca. These chains are called the E. Central and W. Andes.

The *Eastern Andes* of New Granada run between 2° 5' and 5° 30' N. lat., nearly parallel with the central range NNE.; but N. of 5° 30' they incline farther E., running due NE. Though none of its summits, except the Nevado de Chita (5° 50' N. lat.) and the Nevado de Mucuchies (8° 12') enter the line of perpetual congelation, its mean height is commonly above the region of trees; and the *paramos*, which extend on its summits, have a scanty vegetation, and rise to an elevation of between 12,000 and 14,000 ft. Las Rosas, the most N. of these *paramos*, terminates near 9° N. lat., and may be considered as the most N. extremity of the Andes; for the hilly country lying farther N. about the towns of Tucuyo and Barquisimeto is not known to contain summits exceeding 4,000 or 5,000 ft. in elevation, and on that account alone cannot be considered as a continuation of the gigantic mountain system of the Andes.

The eastern declivity of this range is so precipitous that it affords no space for agriculture and can only be ascended with great difficulty; but on its W. declivity recline several extensive tablelands, exhibiting a more or less level surface, and rising to an elevation of from 6,000 to 9,000 ft. above the sea. Such are the rich and fertile plains of Bogota, with those of Tunja, Socorro, Sogamozzo, and Pamplona. These tablelands terminate rather abruptly, and at a little distance from the banks of the Rio Magdalena. The river Funzha, or Rio de Bogota, when issuing from the plain, precipitates itself at Tequendama, at two bounds, down a perpendicular height of 650 ft. In no other cataract is there so great a mass of

water precipitated from so great a height; and the solitude of the place, the luxuriance of the vegetation, and the dreadful roar, present a scene of unrivalled sublimity.

The E. Andes are twice traversed by the road leading from Bogota to Carracasa. From the capital of New Granada it runs over the table-land of Bogota and Tunja to the sources of the Teguia, a tributary of the Sogamozzo, where it passes over the Paramo de Almocadero, on the summit of which it attains an elevation of 12,850 ft. above the sea. It then descends towards the E. plain; before attaining which, it again ascends the range to the town of Pampluna, which probably is not less than 9,000 ft. high. To the N. of this it traverses the upper part of the range, and passes to Rosario de Cucuta. From the last-named place the road is made over the high grounds which skirt the NW. declivity of the chain, passing through Merida, Mendoza, and Truxillo, to Tocuyo. From Tocuyo it traverses the hilly region by which the Sierra de la Costa is united to the Andes, passing through Barquisimeto, S. Carlos, Valentia, and Victoria, to Caraccas.

The Central Andes of New Granada run N., with a slight declination to the E., and form between their commencement and 5° 15' one great mass of rocks, about 40 or 50 miles in breadth, whose sides are only furrowed by ravines, but not intersected by valleys. Its mean height seems to be rather greater than that of the E. Andes, and it contains several summits which exceed the snow line. The most remarkable of them are from S. to N.; the Nevados de Huila, de Baraguan, de Tolima (which attains 18,886 ft.), and de Herveo. In the vicinity of the latter (5° 15') the range expands to about double its width, separating at the same time into several ridges, so as to form a mountain knot, with intervening valleys. This mountain region, known under the name of Sierra de Antioquia, forms in its upper valleys a high country, from 6,000 to 7,000 ft. above the sea, on which the ridges rise 2,000 ft. and more. It approaches very close to the Rio Cauca, so as to skirt its bed for about 150 miles. Opposite to the high banks formed by these ridges, other mountains, belonging to the W. Andes, approach as near to the river, which runs for nearly 150 miles in an immense cleft, over a rocky and rugged bottom, and forms a series of cataracts and rapids between Salto de S. Antonio, and Bocca del Espirito Santo. In all this space the river is quite unfit for navigation, and travelling by land is in this country very fatiguing and not without danger. The ridges which issue from the mountain knot of the Sierra de Antioquia approach the Rio Magdalena to a distance of a few miles, and terminate not far from the place where that river joins the Rio Cauca, about 8° 30'.

That portion of the Central Andes which forms one undivided mass is crossed by two roads; one leading from Bogota to Popayan, and the other to Cartago. The first runs after descending from the elevated plain of Bogota to the banks of the Rio Magdalena, in the valley of this river to the S. as far as the town of La Plata, whence it turns W., and crosses the range over the Paramo de las Guanacas, on which it rises to 14,705 ft. above the sea. It then descends into the valley of the Cauca to the town of Popayan. The road between Bogota and Cartago descends from the plain of Bogota (8,736 ft.), crosses the Rio Magdalena at the pass de Guayacana (1,200 ft.), passes through the town of Ibague (4,480 ft.), and crosses the range by the famous mountain pass of Quindiu, between the Nevados de Baraguan and Tolima; at its highest point, the Garito del Paramo, it attains an

elevation of 11,504 ft. above the level of the sea. It descends afterwards to the town of Cartago in the valley of the Cauca (8,152 feet).

The W. Andes of New Granada are the same range, which farther S. is called Sierra de la Costa or de Sindagua. It lowers considerably in advancing to the N., so that between 2° 30' and 5° N. lat. its mean elevation does not exceed 5,000 or 6,000 ft. above the sea, or from 2,000 to 3,000 ft. above the valley of the Cauca; nor is its breadth considerable, probably not more than from 15 to 20 miles, but it rises with a very precipitous declivity. N. of 5° the range is higher, and its breadth more considerable. Its highest summit is the Torra del Choco, SE. of Novita, which, however, is far from attaining the snow line, and probably does not rise to much more than 10,000 feet. N. of this summit the range approaches close to the Rio Cauca, forming its high banks between the Salto de S. Antonio and the Bocca del Espirito Santo, and constituting with the opposite ranges of the Central Andes, as it were, one mountain knot. The Western Andes send from this point a range towards the Caribbean Sea, which skirts the Rio Cauca on the W., extending to the N. of 8° N. lat., and contains the Alto de Viento, a summit which attains more than 9,000 ft. of elevation.

From the W. Andes a ridge branches off near 6° N. lat. It runs to the W., and separates the sources of the Rio de S. Juan, which falls into the Pacific, from those of the Atrato, which runs to the Caribbean Sea. This range soon turns to the NNW., and advances in that direction between the Rio Atrato and the Pacific. Its elevation seems not to be considerable at the beginning, and it grows lower as it advances farther N. It seems to disappear entirely between 7° and 8° opposite to the harbour of Cupica on the Pacific; for no mountain range is found on the isthmus of Panama, where it is narrowest.

Six roads are said to cross the W. Andes; but they can only be used with great difficulty, on account of the extreme steepness of the ridge. They are commonly impracticable for mules, and travellers as well as goods are brought over on the backs of Indians. The roads most used are that of Las Juntas, which leads from Cali in the valley of the Cauca to Buenaventura, a harbour on the Pacific; the road of S. Augustin, connecting Cartago with Novita; and that of Verras, by which the town of Citara in the valley of the Atrato communicates with Antioquia on the banks of the Cauca. (For a further account of existing and proposed roads over the Andes, see *Railways*, at the end of this article.)

The *Geology* of the Andes is very imperfectly known. Only a small portion of their immense extent has been visited by scientific travellers; and the information obtained from them teaches only a few isolated facts, which do not justify general conclusions. We are, however, informed, that the most frequent of the primitive rocks of the Alps—granite and gneiss—are by no means frequent in the Andes, which are composed mostly of porphyry and mica-slate. Porphyry is by far the most widely extended of the unstratified rocks of the Andes, and occurs through the whole range at all elevations, and frequently the highest summits are composed of it. Next to porphyry and mica-slate, trachyte and basalt are most frequently met with.

Volcanoes are frequent in certain portions of the range. Capt. B. Hall observed a phenomenon, which induced him to think that a volcano existed on one of the larger islands N. of Cape Horn, and that the observed phenomenon was produced by an

eruption; but Capt. King, who surveyed these islands about ten years ago, seems not to have found a volcano in Tierra del Fuego, nor in any other portion of the range south of 46° S. lat. But farther N. they occur in great numbers. Four volcanoes are visible from the island of Chiloe; they lie on the opposite coast, between 46° and 42° S. lat. Still more numerous are volcanoes in the Chilean Andes, not less than nineteen being known to be there in a state of activity. The most N. is that of Coquimbo, somewhat to the S. of 30° S. lat. But between this volcano and that of Atacama (between 21° and 22° S. lat.) no volcano is stated to exist. Farther N. the volcanic mountains occur only in the W. range of the Bolivian Andes; none of the high summits of the E. range having ever been known to have made an eruption, or emitted smoke. That portion of the Andes in which volcanic agency is most active lies between 34° S. lat. and 2° N. lat. The number of summits whose eruptions are recorded is here very considerable; and Humboldt is inclined to think that the valleys N. of the pass of Asuay are to be considered as being placed on an extensive volcanic basis, and that most of the numerous summits surrounding them have once served, and may again serve, as channels for the subterranean fire communicating with the atmosphere. The farthest N. of these volcanoes is that of Puracé, in the neighbourhood of Pöpsayan, where the Andes begin to divide into three ranges; which seem to be, in their present state, quite exempt from volcanic agency, none of their summits having ever made an eruption.

No portion of the globe is subject to such frequent and frightful earthquakes as the countries encompassed within the range of the Andes, and those lying between them and the Pacific Ocean. The towns of Bogotá, Quito, Riobamba, Callao, Copiapo, Valparaiso, Concepcion, and others, have at different times been more or less destroyed by their agency.

Line of perpetual congelation.—The observations made by Humboldt in the Andes induced him to fix the snow line near the equator, at an elevation of 15,750 ft.; and he thought that, near the tropic, it would be found at about 14,000 ft., or somewhat higher. But Mr. Pentland found it near 17° S. lat., at nearly 17,000 ft.; and later observations fix it near 12° S. lat., at about 16,400 ft. above the level of the sea. It is farther remarkable, that though a great number of summits lie above the snow line, glaciers are of rare occurrence in the Andes. This is partly to be attributed to the relative position of their summits, which generally form a continuous line, without having other summits on their sides; and partly to the considerable distance which everywhere is found to intervene between two summits. It is only in the narrow ravines, by which some of the sides of the giant summits are furrowed, that glaciers of small extent are met with.

Vegetation and Zoology of the Andes.—The different plants and trees peculiar to the different regions of the globe appear in regular succession, as we ascend from the level of the ocean to the heights of the Andes. In the lower grounds, between the tropics, from the level of the sea to the height of from 3,000 to 5,000 ft., cassava, cacao, maize, plantains, indigo, sugar, cotton, and coffee are cultivated. Indigo and cacao, the plantain or the banana tree, and the cassava root require great heat to be brought to maturity, generally a climate of which the mean temperature is 75° . But cotton and coffee will grow at a considerable elevation, and sugar is cultivated with success in the temperate parts of Quito. Maize is cultivated in the

same climate as the banana; but its cultivation extends over a much wider sphere, as it arrives at maturity at an elevation of 6,000 ft. above the sea. The low country within the tropics is also the region of oranges, pine-apples, and the most delicious fruits. Between the altitudes of 6,000 ft. and 9,000 ft. lies the climate best suited for the culture of all kinds of European grain. Wheat, under the equator, will seldom form an ear below an elevation of 4,500 ft., or ripen if above that of 10,000 ft. At the same time it must be observed that the European colonists have not sufficiently varied their agricultural experiments to ascertain exactly the minimum of height at which European cereals would come to maturity in the equinoxial regions of America. Humboldt mentions that in the Caracas he saw fine harvests of wheat near Victoria, in the latitude of $10^{\circ} 18' N.$, at the height of 1,640 and 1,900 ft., and at Cuba wheat flourishes at a still smaller elevation. Rye and barley, especially the latter, resist cold better than wheat; they are accordingly cultivated at a greater elevation. Barley yields abundant harvests at heights where the thermometer rarely keeps up during the day above 57° Fah. Within the limits in which European grain flourishes is to be found the oak, which from an elevation of 9,200 ft. never descends, near the equator, below that of 5,500 ft., though it is met with in the parallel of Mexico at the height of only 2,620 ft. Beyond the limit of 9,000 ft. large trees of every kind begin to disappear, though some dwarfish pines are to be found at the height of 18,000 ft., nearly 2,000 ft. from the line of perpetual snow. The grasses clothe the ground at an elevation of from 18,500 ft. to 15,100 ft.; and from this to the regions of ice and snow the only plants visible are the lichen, which covers the face of the rocks, and seems even to penetrate under the snow.

In districts as elevated as the valley of Titicaca, agriculture is confined to potatoes, onions, and capicum, and to the grain called *quinua* (*Chenopodium quinua*, Lin.); barley and rye are only cultivated as fodder. On the plain of Bogotá a farinaceous root, called *aracacha*, is cultivated, and lately some attempts have been made to introduce its culture in England. Trees are found to ascend to 12,000 ft. or 14,000 ft. on the declivities of the mountains; but their summits, which commonly form plains of some extent, are nearly bare of vegetation, nourishing only two or three kinds of low plants.

Among the vegetable productions of the Andes, none has obtained greater celebrity than the *cinchona*, or Jesuits' bark, which is now known to grow not only on different parts of the Andes, but also on the other high mountains of S. America. The best bark, however, is collected on the Andes between 5° N. lat. and 5° S. lat., where the trees grow at an elevation of from 10,000 to 14,000 ft. above the sea.

The most remarkable kind of animals in the Andes is the species comprising the guanaco, llamas, and vicunas. The llamas are used as animals of burden; but they are slow, making only about 12 miles a day, and carrying about 70 lbs. of burthen. The vicunas give a very valuable kind of wool. Among birds, the *condors* have always attracted the attention of travellers, on account of their enormous size. They are a species of vulture.

Mineral Wealth.—If the high table-land of Anahuac in Mexico be excepted, no mountain range can vie with the Andes in mineral riches, especially in the precious metals. Many of the rivers descending from the Andes between the tropics contain small particles of gold in their sand. The particles of gold deposited in the alluvial soil

skirting the beds of some of these rivers have attracted the attention of Europeans, and at some places the soil is carefully washed. The alluvial soils richest in gold are those lying to the W. of the Central Andes of New Granada, on both sides of the Rio Cauca; as also in the provinces of Barbacoas and Choco along the Pacific. In the latter districts platina also occurs; and, till within these few years, when it has been found in the Ural mountains, these were considered as the only places in which it was to be met with. Alluvial soils rich in gold are also found along the rivers which descend from the range of the Bolivian Andes, between 14° and 17° S. lat.; and here, too, considerable quantities of gold are extracted. The annual produce of the *lavaderos* and gold mines of the Andes is stated by Humboldt to have amounted, in the beginning of the 19th century, to 283,429 oz.; equal, at 4*l.* per oz., to 1,133,716*l.* As far as can be ascertained, it has rather decreased than increased since that time.

Silver occurs in many places of the range between 38° and the equator; but it is commonly found at an elevation where vegetation nearly ceases, which renders the working of the mines very expensive, and frequently disappoints the otherwise well-founded expectations of the undertakers. The number of mines which have been worked and abandoned is very great; many of them, however, are still worked. The most celebrated silver mines are those of Potosi and Pasco. The former are in the Cerro de Potosi (19° 36' S. lat.), which rises to 16,087 ft. above the sea. This mountain is perforated in all directions; and it is said, though the statement be probably exaggerated, that there are no fewer than 5,000 excavations in it. The Cerro de Pasco is a hill, rising on the high plain of Bombon (about 11° S. lat.). It has been worked for more than two centuries, and may now be considered as the richest silver mine of America; unless, which is doubtful, it be surpassed by the silver mines discovered in N. Chili in 1880, about 30 or 40 m. S. of the town of Copiapo, where silver ore is very abundant. There are also to be mentioned the silver mines in the San Juan province of the Argentine republic, where also, according to late reports, gold has been discovered. The yield of the San Juan mines, to work which a company has been formed under the patronage of the Argentine government, is very considerable. At the beginning of the present century the annual produce of the silver mines of the Andes was stated by Humboldt to amount to 691,492 lbs. troy; which, if we take the silver at 5*s.* the ounce, gives a sum of 2,074,476*l.* It is not easy to estimate its amount at present; but probably it is not much fallen off.

Mercury or quicksilver occurs in many places N. of 14° S. lat., and S. of the equator; but since the destruction of the mines of Guancavelica, we are not sure whether it be anywhere worked. These, which were extremely rich, yielding from 4,000 to 6,000 cwt. a year, were unluckily ruined in 1789, through the ignorance and mismanagement of a superintendent.

Copper seems to occur very frequently S. of 14° S. lat. Large masses of nearly pure copper are stated to exist on the surface of the S. extremity of the valley of Titicaca, but the expense of bringing them down to the coast is at present so great that they cannot be turned to advantage. In the N. provinces of Chili several mines are worked with advantage. Miers estimated the quantity of copper exported from these countries in 1824 at 40,000 cwt.; in 1829 it rose to 60,000, and has since materially increased. It is mostly exported to China, India, and the U. States.

Ores of lead, tin, and iron exist in various parts; but they are little worked.

Travelling in the Andes.—The improvement of the countries embosomed within the Andes is much retarded by the want of easy communication. Sometimes the intercourse between places in the immediate vicinity of each other is interrupted by *quebradas*, or rents, generally narrow, sometimes of a vast depth, and with nearly perpendicular sides. The famous natural bridge of Icononzo, in Columbia, leads over a small *quebrada*; it is elevated about 812 ft. above the torrent that flows in the bottom of the chasm. Most of the torrents that are passed in travelling over the Cordilleras are fordable; though their impetuosity is such when swollen by the rains as to detain travellers for several days. But when they are too deep to be forded, or the banks too inaccessible, suspension bridges are thrown over them, of a singular make; but which, notwithstanding their apparently dangerous and fragile construction, are found to answer the purposes required. Where the river is narrow, with high banks, they are constructed of wood, and consist of four long beams laid close together over the precipice, and forming a path of about a yard and a half in breadth, being just sufficient for a man to pass over on horseback. These bridges have become so familiar to the natives that they pass them without apprehension. Where the breadth of the river will not admit of a beam being laid across, ropes constructed of *bejucos*, a species of thin elastic cane, of the length required are thrown over. Six of these ropes are stretched from one side of the river to the other; two, intended to serve as parapets, being considerably higher than the other four; and the latter being covered with sticks laid in a transverse direction, the bridge is passed by men, while the mules, being divested of their burdens, are made to swim across. All travellers have spoken of the extreme danger of passing these rope bridges, which look like ribands suspended above a crevice or impetuous torrent. But this danger, according to Humboldt, is not very great when a single person passes over the bridge as quickly as possible, with his body leaning forward. But the oscillations of the ropes become very great when the traveller is conducted by an Indian who walks quicker than himself; or when, frightened by the view of the water seen through the interstices of the bamboos, he has the imprudence to stop in the middle of the bridge, and lay hold of the ropes that serve as a rail. Some of the rivers of the higher Andes are passed by means of an invention or bridge denominated a *tarabita*. It conveys not only the passengers, but also their cattle and burdens; and is used to pass those torrents whose rapidity and the large stones continually rolling down, render it impossible for mules to swim across. It consists of a strong rope of bejuco, extended across the river, on each bank of which it is fastened to stout posts. On one side is a kind of wheel or winch to straiten or slack the rope to the degree required. From this rope hangs a kind of moveable leathern hammock, capable of holding a man, to which a rope is fastened for drawing it to the side intended. For carrying over mules two ropes are necessary, and these much thicker and slacker. The creature being suspended from them, and secured by girths round the belly, neck, and legs, is shoved off, and dragged to the opposite bank. Some of these bejuco bridges are of great length, and elevated to a great height above the torrent.

A bridge of this sort was constructed by the 5th Inca over the Desaguadero, or river that issues from Lake Titicaca, where it is more than 200 ft. in width; and, on account of its utility, is still

kept up. Sometimes, instead of being made of leopards or osiers, these suspension bridges are made of twisted strands or thongs of bullock's hide. Mr. Miara passed along one of this sort in Chili, 225 ft. in length, by 6 ft. wide. It conveyed over loaded mules, and was perfectly secure. (Ulloa, *Voyage en Amerique*, i. 858; Miara, Chili, i. 885; Humboldt's *Researches*, ii. 72.)

The ruggedness of the roads in the less frequented parts of the Andes, can hardly be described. In many places the ground is so narrow that the mules employed in travelling have scarcely room to set their feet, and in others it is a continued series of precipices. These paths are full of holes, from 2 to 8 ft. deep, in which the mules set their feet, and draw their bellies and their riders' legs along the ground. The holes serve as steps, without which the precipices would be a great measure impracticable; but, should the creature happen to set its foot between two of these holes, or not place it right, the rider falls, and, if on the side of the precipice, inevitably perishes. This danger is even greater where the holes are wanting. The tracks are extremely steep and slippery, and in general chalky and wet; and where there are no holes to serve as steps Indians are obliged to go before with small spades to dig little trenches across the path. In descending those places where there are no holes or trenches, and which are sometimes many hundred yards deep, the instinct of the mules accustomed to pass them is admirable. They are sensible of the caution requisite in the descent. On coming to the top of an eminence, they stop; and having placed their fore feet close together, as if in a posture of stopping themselves, they also put their hind feet together, but a little forwards, as if going to lie down. In this attitude, having, as it were, taken a survey of the road, they slide down with the swiftness of a meteor. The rider has only to keep himself fast in the saddle, without checking his beast; for the least motion is sufficient to disorder the equilibrium of the mule, in which case they must both unavoidably perish. The address of these creatures is here truly wonderful; for in this so rapid motion, when they seem to have lost all command of themselves, they follow exactly the different windings of the path, as if they had previously reconnoitred and settled in their minds the route they were to follow, and taken every precaution for their safety. There would, otherwise, indeed, be no possibility of travelling over places where the safety of the rider depends on the experience and address of his beast.

The valleys of the Cordilleras, which are deeper and narrower than those of the Alps and Pyrenees, and present scenes of the wildest aspect, give rise also to several other peculiarities in the mode of travelling. In many parts, owing to the humidity of the climate, and the declivity of the ground, the streamlets which flow down the mountains have hollowed out gullies from about 20 to 25 ft. in depth. The pathway which runs along those crevices is frequently not above a foot or a foot and a half in breadth, and has the appearance of a gallery dug and left open to the sky. In some places the opening above is covered by the thick vegetation which grows out from both sides of the crevice, so that the traveller is forced to grope his way in darkness. The oxen, which are the beasts of burden commonly made use of in this country, can scarcely force their way through these galleries, some of which are more than a mile in length; and if the traveller should happen to meet them in one of the passages, he has no means of avoiding them but by climbing the earthen wall which borders the crevice, and keeping himself suspended by

laying hold of the roots which penetrate to this depth from the surface of the ground. 'In many of the passes of the Andes,' says Humboldt, 'such is the state of the roads that the usual mode of travelling for persons in easy circumstances is in a chair strapped to the back of one of the native porters, called *cargueros*, or, men of burden, who live by letting out their backs and loins to travellers. They talk in this country of going on a man's back (*andar en cargueros*), as we mention going on horseback. No humiliating idea is annexed to the trade of *cargueros*; and the men who follow this occupation are not Indians, but mulattoes, and sometimes even whites. The usual load of a *carguero* is six or seven *arrobas*; those who are very strong carry as much as nine *arrobas*. They earn, by a journey from Ibaguë to Cartago, only 12 or 14 *piasters* in from fifteen to twenty-five days. The passage of the mountain of Quindiu is not the only part of South America which is traversed on the backs of men. The whole of the province of Antioquia is surrounded by mountains so difficult to pass, that they who dislike entrusting themselves to the skill of a bearer, and are not strong enough to travel on foot from Santa Fe de Antioquia to Bocca de Nares or Rio Samana, must relinquish all thoughts of leaving the country. The number of young men who undertake the employments of beasts of burden at Choco, Ibaguë, and Medellin is so considerable, that we sometimes meet a file of fifty or sixty. A few years ago, when a project was formed to make the passage from Nares to Antioquia passable for mules, the *cargueros* presented formal remonstrances against mending the road, and the government was weak enough to yield to their clamours. The person carried in a chair by a *carguero* must remain several hours motionless, and leaning backwards. The least motion is sufficient to throw down the carrier; and his fall would be so much the more dangerous, as the *carguero*, too confident in his own skill, chooses the most rapid declivities, or crosses a torrent on a narrow and slippery trunk of a tree. These accidents are, however, rare; and those which happen must be attributed to the imprudence of travellers, who, frightened at the false step of the *carguero*, leap down from their chairs,' (*Researches*, i. 69.)

Railways.—Within the last few years measures have been projected, and steps have been taken to carry them out, which there is little doubt will break down the barrier to commerce which the Andes of South America now form. Most prominent of these is the project to prolong westward the line of railway from Rosario on the Parana river to Cordova in the interior; and in fact, connect the Atlantic with the Pacific, the River Plate with the coast of Chili, by a railway crossing the Andes at a height of 16,023 ft. above the level of the sea. It was originated and roughly surveyed about ten years ago by Mr. Wheelwright, a New England gentleman of long experience in constructing mountain railways in Chili. Under his direction a railway was constructed from Valparaiso to Santiago, which lies about 2,000 ft. above the sea; opened for traffic in 1868. In 1849 he completed 50 miles of line, from the seaport of Caldera to the mining station of Copiapo, now extended 52 miles farther to Chanargillo, passing over an elevation of 4,476 ft. above the sea, with a maximum gradient of 1 in 20, a steepness unprecedented, but worked for more than three years at a slow speed with powerful locomotives, drawing a maximum load of 43 tons. The success of this line as a pecuniary speculation, and more extensive knowledge of the country, suggested to Mr. Wheelwright the greater scheme of crossing

the Andes. From Copiapo a pass, called by the name of San Francisco, crosses the Chilean Cordillera. Though it exceeds the height of 16,000 ft., it is rarely if ever blocked up with snow, partly owing to the dryness of the atmosphere, partly to its wide and open character. From Copiapo to the summit is 225 miles, the rise in height about 14,900 ft. From the summit to Fiambala, where the plains which extend to the Atlantic may be said to begin, the distance is 125 miles, the fall near 11,000 ft., Fiambala being over 5,000 ft. above the sea. Here, however, rich soil and abundant vegetation, with almost tropical products, begin, and the rest of the distance to Cordova, 350 miles, and thence to Rosario, 250 miles, though passing occasionally through salt and barren lands, offers no engineering difficulties; and, indeed, like the neighbourhood of Buenos Ayres, is singularly favourable to cheapness of construction. From Copiapo to the summit only two places involve much difficulty or heavy works. The first requires steep gradients and a tunnel between 1 and 2 miles long, in a space of about 11 miles, at the passage of a secondary mountain ridge called Cuesta di los Chilenos. Passing it, the road comes out on the great central plateau of the Cordillera at a height of near 18,000 ft., at a point distant about 80 miles from the summit level, and with a total rise of little more than 8,000 ft. in that distance, in which only one difficulty occurs—a gradient of 600 ft. to the mile for 8 miles, to be reduced to 200 by taking a circuit increasing the length to 10 miles. The first portion of the descent, for 18 miles is on a heavy gradient of 150 ft.; and no further difficulty occurs except at a place called the Angostura—the contraction of the Los Losas river, where it falls rapidly for 5 miles. But it is probable that this difficulty, itself not excessive, might be avoided by a side valley, which would also shorten the route. As yet only a survey of a rough description has been made; but the practicability of the line is proved by the gradients not exceeding what have already been worked. The scheme, it is also remarked, includes only 2½ miles of tunnelling. It is even expected that when more accurate surveys come to be made, more suitable passes may be chosen.

Mr. Wheelwright stated, in a paper communicated to the British Association in 1863, that since he left Copiapo, 'a Mr. Brewer, a very reliable person, who resides in that city, has driven over the mountain by San Francisco to the province of Tucuman, and returned in the same carriage by the Horquera Pass, further south, which he preferred. Mr. Brewer describes the summit of the Horquera as being only a few thousand feet in width, whereas at San Francisco it is 100 miles, and that there is an abundance of water except for a space of 20 to 25 miles. He is, no doubt, the first person that ever crossed the Andes in a carriage.' The pass called Planchon, above described, has also attracted attention.

If this should be found practicable, another trunk line would probably be planned to diverge from the Rosario and Coldova line at a place called Villa Nueva, and run direct by the important towns of San Luis and Mendoza to the Planchon. It would then descend to join the Great Southern Railway of Chile at Curico, 85 miles south of the capital, Santiago. In that case, the other line on arriving at Horquera, a central position for the provinces of Catamarca, Tucuman, and Santiago de Estera, instead of turning westward to the pass of San Francisco, might run nearly north through Tucuman, Salta, and Jujuy, and enter Bolivia and Upper Peru even as far as Potosi, if it should be found practicable.

Among the advantages expected from these railways is reckoned not only the commerce of Chili and Peru, seeking a port or a river flowing into the Atlantic, but it is anticipated that their construction would lead to the adoption of a new passenger route from Europe to Australia. As Admiral Fitzroy pointed out before the Geographical Society in 1860, 'a ship running a few hundred miles to the north from Copiapo or Caldera, gets into the heart of the trade-wind, which would carry her across to Australasia. On the other hand, by running a little south from Australia or New Zealand, a ship would get into the south westerly winds, which would carry her right across to Chili: so that a ship without steam might make the voyage either way in five or six weeks, without having to guard against any intervening land, or peculiar danger of any kind, beyond that of an oceanic passage without a hurricane.' The actual distance, again, across that part of South America from New Zealand to Europe is rather less than by the Isthmus of Suez. The voyage from Liverpool to Rosario is reckoned at from twenty-five to thirty days, so that, allowing five days for the railway transit, little more than two months would be sufficient for the transmission of mails and passengers between Australia and England.

ANDLAU, a town of France, dep. Bas Rhin, arrond. Schelestat, on the Andlau, 10 m. NNW. Schelestat. Pop. 2,018 in 1861.

ANDORRE (REPUBLIC OF), a small and nominally independent state on the S. declivity of the Pyrenees, between the dep. of Ariège in France, and the district of Urgel in Spain. It stretches from N. to S. about 86 m., and from E. to W. about 80, comprising three mountain valleys and the basin formed by their union. These valleys are among the wildest and most picturesque in the Pyrenees, and the mountains, with their immense peaks, by which they are enclosed, among the highest and least accessible. It is watered by several small rivers; the largest of which, the Embalin, having received the others, falls into the Segre, an affluent of the Ebro. Pop. from 7,000 to 8,000, divided among six communes. Andorre, the principal town, has about 2,000 inhab. It has but little arable land, but a considerable extent of excellent pasture grounds, sheltered by vast forests of fir. The inhab. depend principally on their flocks and iron mines, the produce of the latter finding a ready market in Spain. This little state, though connected in some degree with both its powerful neighbours, has preserved its independence for about 1,000 years. The government is composed of a council of twenty-four members, chosen for life, each commune electing four. The council elect two Syndics, who enjoy considerable authority, convoking the assemblies, and carrying on the government when they are not sitting. Andorre owes its independence to Charlemagne. In 1790, that prince, having marched against the Moors of Spain, and defeated them in the neighbouring valley of Carol, the Andorrians are said to have rendered themselves so useful to the French army, supplying them with provisions, and taking care of their wounded, that the Emperor, by way of recompense, made them independent of the neighbouring princes, and permitted them to be governed by their own laws. After him Louis le Debonnaire ceded to the Bishop of Urgel a part of the rights over Andorre which Charlemagne had reserved to himself and his successors. In virtue of this grant, the Bishop acquired right to a part of the tithes of the six communes, and a spiritual jurisdiction over the country, which he still exercises.

In 1798, the rights exercised by the sovereigns of France in Andorre being considered as feudal, were abandoned, and the republic was for a time completely separated from that country; but notwithstanding this temporary independence, the Andorrians continued to preserve their attachment to France. They resisted the violation of their territory by the Spaniards, and furnished to the French armies, during the late war, guides and assistance of every kind. At the same time they anxiously solicited the establishment of the ancient order of things; and Napoleon yielded to their wish. By a decree of the 20th of March, 1806, Andorre was declared to be a republic connected with France; its viguier, or criminal judge, was to be a Frenchman, of the dep. of Ariège; and it was allowed to import certain quantities of certain specified articles, free of duty, on payment of the trifling sum of 960 fr. a year. Except therefore, as regards the spiritual jurisdiction of the Bishop of Urgel, which cannot be said to interfere with its independence any more than the Pope's ecclesiastical authority over Catholic countries can with theirs, Andorre is altogether independent of Spain; and, as regards France, the annual payment it makes to her is not a tribute, but an inadequate compensation for a valuable privilege; and there being little crime in Andorre, the appointment of a Frenchman for criminal judge was more with a view to deter French criminals from taking refuge in this neutral territory, than to assert any superiority. Andorre may, therefore, be justly considered as the oldest free republic in existence. The people all belong to the church of Rome, and are very religious. Their clergy, and the more wealthy of the inhabitants, are educated at Toulouse or Barcelona. Each curé, in addition to his pastoral duties, has charge of a school, where the poor are instructed gratuitously; but this does not give him much extra trouble, few of the peasants thinking it necessary to send their children to school to acquire what, in their land of shepherds and labourers, they imagine can be of little consequence in their future lives. Hence the great majority of the people can neither read nor write.

The Andorrians are simple and severe in their manners, the vices and corruptions of cities not having hitherto found their way into their valleys. They live as their forefathers lived a thousand years before them: the little they know concerning the luxuries, arts, and civilisation of other countries inspiring them rather with fear than envy. Their wealth consists in their sheep or cattle, or in the share they may have in iron forges, only a very few of their number being the proprietors of any land beyond the garden which surrounds their cottage. Each family acknowledges a chief, who succeeds by right of primogeniture. These chiefs, or eldest sons, choose their wives from families of equal consideration with their own, reprobating *mesalliances*, and looking little to fortune, which besides is always very small upon both sides. They never leave the paternal roof until they marry; and if they marry as heiress they join her name to their own. Unless married, they are not admitted to any share in the management of public affairs.

When there are only daughters in a family, the eldest, who is heiress of the entire property, and succeeds as an eldest son would do, is always married to a cadet of another family, who adopts her name, and is domiciliated in her family. By this arrangement, the principal Andorrian houses have continued for centuries without any change in their fortunes, *ni plus riche, ni plus pauvre*. The poorest inhabitants are not so badly off as in most

other countries; their wants are few and easily supplied, the opulent families taking care of those who are not; and the latter honouring and respecting their benefactors.

The Andorrians are in general strong and well proportioned; the greater part of the diseases proceeding from the moral affections are unknown, as well as those originating in vice and corruption. The costume of the men, composed of coarse brown cloth made from the wool of their own sheep, resembles that worn by the peasants of Bigorre, with this difference, that the Andorrians wear the flowing red cap of the Catalans. There would seem to be but little gallantry among these mountaineers, for the women are not admitted to any of the assemblies where public affairs are considered; nor even to the masses performed upon the reception of the bishop or judge. Crime of every kind is rare, and punishments, though mild, are effectual. There are no law-suits relative to paternal successions; and should disputes of any kind arise, they are at once referred to the Syndics, whose decision is never controverted. The men are all liable to serve in the militia, should they be required; and every head of a family is obliged to have in his possession at all times a musket, and a certain quantity of powder and ball.

Commerce of every kind is free; but, with the exception of iron, of which it has some mines and forges, its manufactures are all of the coarsest and rudest kind.

ANDOVER, a borough and m. town of England, co. Hants, near the Anton, on the great road from London to Salisbury, being 68 m. WSW. of the former, and 17 NE. of the latter, with a station on the London and South-Western railway. The municipal borough and parl. district which include 7,670 acres, had 5,221 inhab. in 1861. It is compactly built, extending on either side about one-third of a mile from the market place, in the centre of which is a modern town-hall, supported on arches, under which are held the markets. The church, an old Gothic building, is on the N. side of the town. There is an hospital for six poor men, a free school founded in 1569, and a charity school for thirty boys. Some trade is carried on in making, and the manufacture of silk; but its principal support is derived from its being a considerable thoroughfare, and the only market for the surrounding country. It is in a thriving condition; and contains several good shops and respectable private houses. The great annual fair of Weyhill (which see) is held within a short distance. There is a canal from the town to Southampton. It returns two members to the H. of C. From 1689, down to the passing of the Reform Act, the right of voting was in the bailiff and corporation. Parl. constituency, 257 in 1865.

ANDOVER, a town of the U. States, Massachusetts, co. Essex, 20 m. N. Boston by road, and 23 by railway. Pop. 6,748 in 1860. It is finely situated, and has some manufactures; but it is chiefly distinguished for its literary institutions, particularly its theological academy, founded in 1807, and liberally endowed. There is also a very flourishing academy, founded in 1778.

ANDRACIO, or ANDRACI, a town of Spain, on the SW. coast of the island of Majorca. Pop. 4,609 in 1857. It is situated at a little distance from the sea, but it has a small port accessible to vessels drawing little water. Its territory is productive of olives.

ANDRE, or ENDRE (ST.), a town of Hungary, on the right bank of the Danube, opposite to the island of the same name, 111 m. N. Buda. Pop. 2,980 in 1857. It has one Catholic and seven Greek churches. The hills in the vicinity produce ex-

cellent wines, and the island in the river is celebrated for its fertility.

ANDRE-DE-CUBSAC (ST.), a town of France, dep. Gironde, cap. cant. 12 m. NNE. Bordeaux. Pop. 8,690 in 1861. It is situated at a little distance from the Dordogne; but it has a port, Cub-sac, on that river. The high road from Bordeaux to Paris crosses the Dordogne at this point, and formerly, previously to the construction of railways, passengers and carriages were conveyed across in a large ferry boat.

ANDREASBERG, a town of Hanover, principality of Grubenhagen, in a district which has mines of iron, cobalt, copper, and silver. Pop. 4,800 in 1861. The town has a college, a council of mines, and manufactures of lace and thread.

ANDREW'S (ST.), an ancient and celebrated city and seaport of Scotland, co. Fife, finely situated on a low eminence on the German Ocean, 81 m. NE. Edinburgh, lat. 56° 20' N., long. 2° 50' W. Pop. of par. burgh, 5,176 in 1861. The population in 1800 was only 2,519. The city chiefly consists of three principal streets, leading in a W. direction from the cathedral, is in general well built, and has been much improved during the present century. St. Andrew's was long the metropolitan see of Scotland; and is highly interesting from its numerous remains of other ages, and the historical associations connected with it, many highly important events having occurred within its precincts. Its splendid cathedral, founded in 1160, and completed in 1818, was reduced to a ruin in 1559 by the barbarous zeal of the reformers. The castle, long the residence of its archbishops, and a place of considerable strength, stood on a precipice overhanging the sea. The famous Cardinal Beaton was assassinated in it in 1546, in revenge of the share he had in bringing Wishart, a preacher of the reformed doctrines, to the stake in the previous year. Its picturesque ruins now serve as a landmark for ships. There are also, among others, the ruins of a chapel, and a square tower 108 ft. high, called the chapel and tower of St. Rule or St. Regulus, supposed to be the most ancient of the existing fabrics. The priory of St. Andrew's was one of the best endowed in Scotland; and part of a gigantic wall, intended to enclose the grounds of the priory, 870 ft. long, 22 ft. high, and 4 ft. thick, with fourteen turrets, erected by Prior Hepburn in 1516, is still in good preservation, and is not one of the least interesting relics of bygone times. The foundations and part of the walls of this edifice were uncovered in 1860. The parish church, founded in the 12th century, but rebuilt in 1797, has a monument to Archbishop Sharpe, assassinated in 1679. The university of St. Andrew's, the most ancient in Scotland, and now the principal support of the city, was founded in 1410 by Bishop Wardlaw, and confirmed by a papal bull dated the following year. It originally consisted of three colleges, St. Salvador's, St. Leonard's, and St. Mary's; of which the two former were united in 1747, when the buildings of St. Leonard's were pulled down. The two colleges are in different parts of the town, and their professors and discipline are quite distinct. The United College consists of a quadrangular edifice, in which some excellent rooms were recently erected at the expense of government. This institution is appropriated to the study of languages, philosophy, and science, and St. Mary's to that of theology. The chapel of the United College, founded by Bishop Kennedy in 1458, is a fine specimen of the light Gothic; and is used as the college chapel, and as a parish church. It has a tomb of the founder; on opening which, in 1683, six silver maces were found, of which three were

sent to the other Scotch universities, and three retained in the college. St. Mary's College is a handsome stone structure. A library contiguous to the latter, and containing about 60,000 volumes, is common to both colleges; and until the privilege was commuted, in 1836, for 456*l.* a year, it was entitled to a copy of every work entered at Stationers' Hall. The United College and St. Mary's have together thirteen professors; each college has a principal, the principal of St. Mary's being one of the professors, and the university is presided over by a lord-rector and a chancellor. The endowments are considerable, each professor receiving at an average about 280*l.* a year, exclusive of fees from pupils. The fee for attending one of the literary classes is 8*l.* 8*s.*; students in the theological classes pay no fees—with the exception of a fee of 5*s.* on matriculating, which is common to both establishments. The United College has 59 bursaries. Within the last thirty years a very large addition has been made to the facilities for education already enjoyed by St. Andrew's, through the liberality of Dr. Bell, of Madras, who died in 1832, bequeathing the sum of 45,000*l.* three per cent. stock for the erection of a seminary on a comprehensive plan in this his native city. A fine building for this school has been erected at a little distance from St. Mary's College. The number of teachers in the *Madras College* (the name given to Dr. Bell's establishment) is nine, exclusive of assistants. This seminary affords instruction gratis to the poor; and the fees are very low, being only 7*s.* 6*d.* per quarter for Latin and Greek; the same for German and French; the same for mathematics, and the same for drawing: 5*s.* per quarter for geography: 8*s.* for writing: 2*s.* 6*d.* for arithmetic: and 2*s.* for English. Students may attend one or more classes, and pay accordingly. The average number of pupils at this seminary has been about 800, but it is rapidly increasing, and is now 900. There is also an infant school, with an average attendance of 120. Of the number of people at the college, above a half are strangers, attracted to the city by the deservedly high character of this excellent institution, the best probably of its kind in the empire. To this cause it is also in great measure owing that the town has been completely renovated of late years, and the population largely increased. Much credit for the improvement of the place is also due to the late provost, Lieut. Col. Sir Hugh Lyon Playfair. Through his exertions a broad foot pavement was laid down, in place of the once grass-grown causeway, and the old townhouse, which formerly stood in the middle of Market Street, obstructing the thoroughfare, was swept away, and a more elegant building erected in South Street. St. Andrew's is becoming increasingly a place of fashionable resort, and its buildings are rapidly extending. The harbour, partly formed by two piers, is on the E. side of the town, extending about 430 yards inland; but it dries at low water, and the access to it being difficult, it is little frequented by shipping. The town has no manufactures worth notice, unless it be that of *golf-balls*, or balls for playing the game of golf, which employs about six or seven men, who produce annually about 1,100 dozen balls, of which about 800 dozen are sent to other places, the rest being consumed in St. Andrew's, which has been long famous for this game. A good workman makes eight or nine balls a day. St. Andrew's unites with the two Anstruthers, Crail, Cupar, Kilmarnock, and Pittenweem in returning a member to the H. of C.

ANDRIA, a town of South Italy, prov. Bari, cap. cant. 9 m. S. Barletta. Pop. in 1861, 30,892. It stands on a plain on the edge of the enclosed

country, and its environs are far from unpleasant. It is the seat of a bishopric, has a superb cathedral, a royal college, and three *mons de piété*. It was founded in 1046 by Peter, Count of Trani, and acquired its name from the *antro*, or caverns occupied by its first settlers.

ANDRO, or ANDROS, an island of the Grecian Archipelago, lying to the S. of Negropont, and immediately to the N. of Tino, from which it is separated by a very narrow channel. It extends about 27 m. in a NW. and SE. direction; but its breadth does not exceed 7 or 8 m.—Though mountainous, it has several extensive, fertile, and well watered valleys, and a number of villages. The pop. has been estimated at from 13,000 to 16,000. Wine is the principal article, the annual product amounting to 280,000 gals.; exclusive of which there is a considerable export of silk, oil, oranges, citrons, &c. The corn raised in the island generally suffices for the consumption of the inhabitants. Andro, or Castro, the capital, a considerable town, with about 5,000 inhabitants, is situated on the E. coast of the island; its port, which is defended by a castle, is too shallow to admit any but the smallest description of vessels. Port Gaurio, or Gabrio, on the W. side, is a much better harbour. The Andrians took the part of the Persians as the latter invading Greece, for which they were afterwards chastised by Themistocles.

ANDROS ISLANDS, or ISLES DEL ESPIRITU SANTO, a group of islands among the Bahamas, which extend about 120 m. from N. to S., lat. 24° to 25° 20' N. long. 77° to 78° W.

ANDUJAR, a town of Spain, Andalusia, on the Guadalquivir, in a plain at the foot of the Sierra Morena, 20 m. NW. Jaen, lat. 38° 1' 32" N., long. 3° 59' 33" W. Pop. 9,353 in 1857. Mr. Townsend says that, in 1786, it contained 6,800 families; which, if accurate, would show a great decline in the interval. (Travels in Spain, ii. p. 297.) It is supposed to be built of the ruins of the ancient *Forum Judæum*; it is defended by an old castle, and has numerous churches and convents, a theatre, and an old bridge of fifteen arches over the river. Its environs are fruitful, and the inhabitants are mostly employed in agriculture; but there are tanneries, and manufactures of wine and water coolers, made of a peculiar species of white clay found in the neighbourhood.

ANDUZE, a town of France, dep. Gard, cap. cant., on the Gardon, 26 m. NW. Nîmes. Pop. 5,206 in 1861. The inhabitants are mostly Protestants. It is ill built, but agreeably situated at the foot of the Cévennes, between rocks and hills planted with vines and olives. It has a tribunal of commerce, with manufactures of hats, silk, hosiery, cloth, earthenware, and glue, a silk filature, and tannery.

ANET, a handsome town, dep. Eure et Loire, cap. cant., 9 m. NNE. Dreux. Pop. 1,406 in 1860. It is principally celebrated for the ruins of its fine castle, built by Henry II. for Diana of Poitiers, and destroyed during the revolutionary frenzy in 1792. There are in its environs forges and paper-mills.

ASER, a village of Switzerland, cant. Berne, on a hill, 17 m. W. by N. Berne. Pop. 1,378 in 1861. Roman antiquities are found in the neighbourhood.

ANGELO (ST.), the name of several towns in Italy, of which the principal are St. Angelo in prov. of Milan, circ. Lodi, 7 m. SW. Lodi. Pop. 8,334 in 1862. St. ANGELO in the same kingdom, prov. Padua, 11 m. NE. Padua. And St. ANGELO, in South Italy, distr. Campagna, 16 m. SSE. Campagna. Pop. 2,264 in 1862.

ANGELO DE LOMBARDI (ST.), a town of

South Italy, 48 m. E. Naples. Pop. 6,344 in 1862. The town is the seat of a bishopric, has a college, and two parish churches. In 1664 it was almost entirely destroyed by an earthquake.

ANGERBURG, a town of Prussia, prov. E. Prussia, cap. circ., on the Angerap, 60 m. SE. Königsberg. Pop. 3,991 in 1861. It has a castle and manufactures of woollen stuffs and leather. The Angerap falls, a little to the S. of the town, into the large, irregularly shaped, shallow lake of Mauer, celebrated for the abundance and excellence of its eels.

ANGERMUNDE, a town of the Prussian States, prov. Brandenburg, reg. Potsdam, cap. circ., on the lake Munde, 43 m. NNE. Berlin, on the railway from Berlin to Stettin. Pop. 6,205 in 1861. The town has manufactures of hats, woollen stuffs, and tobacco.

ANGERS (the *Julianus* of Cæsar, afterwards *Andegavia*, and hence *Angers*), a very ancient city of France, dep. Maine et Loire, of which it is the capital, on the Mayenne, which divides it into two portions, near its confluence with the Loire and the Sarthe, lat. 47° 28' 9" N., long. 0° 38' W. Pop. 51,797 in 1861. The town is 181 m. SW. Paris, on the railway from Tours to Nantes. It is surrounded by massive walls, built in 1214 by John, King of England. Speaking generally it is ill built, and mean looking; houses partly of wood and partly of slate, streets narrow and crooked. Principal objects of attraction, cathedral and castle. The first begun in 1225, and of large dimensions, has its front ornamented by two symmetrical spires, each 225 ft. high. It contains the monument of Margaret of Anjou, daughter of René, King of Sicily, and wife of Henry VI. of England. The old castle, the former residence of the dukes of Anjou, stands on a rock having the river at its foot: its plan is that of a vast parallelogram, surrounded by high massive walls, defended by deep fosses cut out of the rock, and by eighteen towers; but these, with one exception, have now been reduced to the height of the walls. The castle serves at present as a prison for the city, and a powder magazine: on the side next the river it is becoming ruinous. Angers is the seat of an imperial court for the departments of Maine et Loire, Sarthe, and Mayenne; has a tribunal of original jurisdiction, an academy, a royal college, a school for deaf and dumb, and a secondary school of medicine. It has also a school of arts and trades, being, with the exception of that at Chalons-sur-Marne, the only school of the kind in France. Each department is entitled to send three pupils to this school—the instruction of one to be entirely gratuitous, the others paying one a fourth part and one a half of the ordinary pupils. It has also a school of design; an agricultural society; a public library, containing 35,000 volumes; a museum with about 600 pictures, many of them good; a botanical garden; a cabinet of natural history; and a theatre. There is an imperial manufacture of sail-cloth, a cotton mill, with manufactures of linen, serges, handkerchiefs, hosiery, and starch; a sugar refinery, a wax refinery, and tanneries. The town has three bridges. It labours under a deficiency of water, that of Mayenne not being fit for use. Previous to the revolution Angers was the seat of a university, founded in 1248: it had also a celebrated academy of *belles lettres*; and such was the fame of its riding-school, that it was attended by Peter the Great. It suffered severely during the wars of La Vendée; but since 1815 it has been comparatively prosperous, and various improvements have been effected, Angers has produced several distinguished persons, among whom Bodin, the author of the work

'De la Republique,' published in 1576, Menage, and Berner, the famous traveller.

The slate quarries in the vicinity of Angers, whence the town is built, and which also supply large quantities of roofing slates to other depas, are immense excavations. It is noticed in French works that the abundance of slate is such that almost all the houses are covered with slates, for which reason it has been termed the *Black Town* (*Ville noire*).

ANGERVILLE, a village of France, dep. Seine et Oise, 83 m. S. Versailles, and on the railway from Paris to Orleans. Pop. 1,545 in 1861.

ANGHIARA, a town of Italy, prov. Arezzo, near the Tiber, 18 m. E. Arezzo. Pop. 6,880 in 1862. The town is celebrated for the victory obtained near it, in 1440, by the Florentines under Piccinini over the forces of the Duke of Milan. This also is the name of a village of the Veronese, and of a decayed city on the banks of the Lago Maggiore.

ANGLES, a town of France, dep. Tarn, cap. cant. 16 m. ESE. Castres. Pop. 2,663 in 1861. This is the name of several small villages in other parts of France.

ANGLESEY (the *Mona* of Tacitus), an island and co. of N. Wales in the Irish Sea, separated from the mainland of Britain by the Menai Strait, but connected with the co. Carnarvon across the strait by the famous Menai bridge, and the Britannia tubular railway bridge. It is of a triangular form, extending, Holyhead included, about 27 m. from E. to W. by about 20 from N. to S.; area, 178,440 acres; surface gently undulating; climate, temperate, but liable to fogs; there is in most parts a great deficiency of wood, and it has generally a bare uninviting aspect.

Since 1768 Anglesey has been famed for its mineral riches, the celebrated copper mines in the Parys mountain having been discovered in the course of that year; but they have now greatly declined. (See AMLWCH.) Lead ore and asbestos have also been found; and coal is wrought to some extent at Maltreath. Soil various, but principally a fine loamy sand, which, when properly cultivated, is highly productive. Agriculture is not, however, in an advanced state. So late as 1810 it was no uncommon thing to take five white crops in succession, most of which were so poor as hardly to pay their expense; but an improved system is being gradually introduced. The stiff loams, of which the extent is considerable, are usually manured with a sort of shelly sand. Principal crops, oats, barley, wheat, and potatoes, the latter being grown more extensively than in any other part of N. Wales. Grazing is the principal object of the farmer's attention. Several thousand head of cattle are annually sent from the island to the mainland, exclusive of considerable numbers of sheep. Manufactures unimportant, consisting merely of some of the coarser descriptions of woollens. Chief towns, Beaumaris, Holyhead, Amlwch, Llanerchymidd, and Llangefni. It is divided into 3 cantreds, 6 comots, or hundreds, and 78 parishes. The pop., which in 1776 amounted to 19,780, had increased in 1831 to 48,325, and in 1851 to 57,327, but had decreased in 1861 to 54,609, or a decrease in the ten years of 2,718. It returns a m. to the H. of C. for the co., and one for the boroughs of Beaumaris and Holyhead. Reg. elect., 2,389 in 1865.

Anglesey seems to have been a principal seat of the Druids. The Romans, under Suetonius Paulinus, having taken it after a fanatical resistance, A.D. 61, cut down the groves of the Druids, *sacris superstitionibus sacri*, and seem to have exterminated both the priests and their religion.

(Tacit. Annal., lib. 14, § 80.) It was subjugated, along with the rest of Wales, by Edward I., and was incorporated with England and made a county by Henry VIII. The most important events in its recent history are the discovery of the Parys mines, in 1768, building of the Menai bridge in 1825, and the construction of the Britannia tubular bridge for the railway from Chester to Holyhead, which was opened October 21, 1850.

ANGLET, a town of France, dep. Basses Pyrénées, near Bayonne, famed for its excellent white wine. Pop. 2,663 in 1861.

ANGOLA, DONGO, or AMBONDE, a kingdom of the W. coast of Africa, extending from 8° 20' to 9° 15' S. lat., and from 14° to 18° or 19° E. long., but the eastern boundary is not defined. On the N. it is separated from Congo by the Danda; on the S. the Coanza divides it from the districts of Quassima and Libolo; and on the W. it has the Atlantic Ocean. It is rectangular shaped, lies nearly parallel to the equator, being about 350 m. in length from E. to W., 50 or 60 m. in width from N. to S.; containing an area of probably not less than 18,000 or 20,000 sq. m. The district of Benguela, to the south of Coanza, lying between lat. 10° and 17° S. and long. 12° and 17° E., is also claimed by the Portuguese, and they have established in it the new colony of Mossamedes, the population of which district and colony is usually included with the returns for Angola. (Acc. of Discov., 22, 143; Annales des Colonies de Portugal.)

This country is properly a part of Congo, from which, however, it has been politically separated since the middle of the sixteenth century, when a chief, whose name or title was *Angola*, made himself independent of the King of Congo, and gave its present designation to his new kingdom, the native name of which was Dongo, or Ambonde. It is very powerful among the neighbouring states, the paramount authority of its monarch being acknowledged by several districts, some of them greatly exceeding itself in extent.

Physical Character.—Angola is extremely mountainous, with no plains, except upon the seashore, and some small plateaus on the sides and in the gorges of mountains. The land appears, however, to be making advances on the sea, and forming islands, which are wholly of an alluvial and level character; such is the isle of Loanda, lying a short mile from the coast, and forming with the Cabo Palmareinho one of the most convenient harbours on the W. coast of Africa. The cape itself is also a plain of the same nature, and very evidently in a state of progress westward. (Pigafetta, Del Regno di Congo, 10; Merolla, Viaggio del Congo, 70.)

The country is extremely well watered (as, indeed, is the whole of Congo); the principal streams are the Coanza, Benga, and Danda, which run nearly parallel to each other, and to the equator; the first and last forming the S. and N. boundary of the country. The Coanza, however, before running east and west, has a north-westerly course among the mountains, east of the district of Benguela. Among the mountains inland from Angola and Benguela are also the sources of the southern branches of the Zaire or Congo river, which flows into the Atlantic Ocean to the north of Angola, and of the Leeambye and Chobe rivers, which unite in the centre of Africa to form the great Zambezi river. The interior mountainous country has been comparatively little explored, but of late years some progress has been made with the determination of the courses of the principal rivers by the travels of Dr. Livingstone, of a Portuguese merchant, Silva Porto, and of Dr. Welwitsch,

under the auspices of the Portuguese government. These travellers have also added to the information we possess of the tribes inhabiting the interior, the productions, and geological characteristics of the country.

Soil, Climate.—The worst soil in Angola is that upon the coast, and the more recently formed islands, which is sandy, but by no means desert; for at any time, by digging to the depth of a foot, or less, an abundant supply of good water may be procured. It is, however, a remarkable fact, that at the ebb tide these temporary wells are always found rather brackish, while at the flood their contents are perfectly sweet. (Pigafetta, 10; Lebat, i. 89.) The mountain sides, and the valleys of the rivers, present all the richness of soil common in equatorial countries which are well irrigated, though the useful productions of the land are said to be chiefly owing to the agricultural labours of the Portuguese. The climate is excepted by Adams (Remarks, 200) from the general charge of malignity towards Europeans under which the rest of tropical Africa labours. Situated so near the equator, Angola might be expected to have two dry and two rainy seasons in each year; but this does not appear to be the case; and, indeed, the accounts of travellers on this point are sufficiently conflicting. Pigafetta says (p. 7) that the rainy season is from April till August; Lebat (p. 107), that it occupies November, December, and sometimes January. Barbot (522) leaves it uncertain, but makes the dry season extend from May to September; though he remarks that this period is not without an intermixture of pleasant showers. Degrandpre (Voyage à la Côte d'Afrique, i. 4) says that rain seldom falls, and never abundantly. The same author remarks, that the abundant dews are fully sufficient for the development of vegetation; and in this he is borne out by all the other authorities. The trade wind blows steadily from SW. to S., the sea breezes commonly from WSW., and the land wind from E. by N. Angola is, however, sufficiently remote from the internal deserts to prevent the ill effects that might be otherwise feared from this breeze. Tornadoes are not unfrequent; and at such times the wind shifts violently to all points of the compass, settling, finally, into the direction of the trade. Gold and silver have been discovered in the mountains near the coast; but no gold dust is found, though it appears to have existed formerly. Iron is produced plentifully through the energy of the Portuguese; and copper is said to exist in the interior. Lead, sulphur, and petroleum are among the mineral treasures; but there is no mention of precious stones. The natives are reasonably good miners, under European direction; and it is asserted that the subterraneous exhalations produce as sensible a difference in their colour, as the same cause is known, in many cases, to effect in that of Europeans.

Vegetation has the magnificence observable in all well-watered tropical regions. A species of the *Ficus*, called by the natives *Ensada*, and possessing the property of dropping its branches to the ground, where they take root, and germinate like a new plant, is very abundant. Some of these trees, resembling small thickets more than individual plants, extend to more than 1,000 paces in circumference. The *ensada* is an extremely useful plant: the fruit, which resembles an ordinary fig, is an important article of food; its outer bark assists in the construction of huts and boats, and an inner coating, being washed and beaten, is manufactured into cloth. The date, and every other species of palm, the citron, orange, lemon, anana, guava, banana, cocoa, tamarind, mangrove,

and every fruit and forest tree common to the equinoctial regions, grow here spontaneously, and reward the least expense of labour with the most abundant return. The same remark holds good with regard to yams, potatoes, and the whole race of roots; and though the climate be too hot for the production of European grain, yet four species of wheat, Turkish, Sarasin, Massingo, and Luno, are raised in great abundance. Pulses of all kinds are likewise plentiful; and the sugar-cane, pepper-vine, and a plant called *mandioca*, of which a very good bread is made, absolutely struggle with man for the possession of the soil. Many trees produce fine gums or resins; and, in a word, there is scarcely a vegetable production which Angola does not, or under reasonable care might not be made to produce. The woods and mountains shelter lions, tigers, leopards, hyenas, and wolves; of smaller wild animals, there are foxes, wild cats, &c. Of the useful animals, there are hares, rabbits, all the species of antelopes, stags, goats, and hogs of the Chinese variety. The sheep, cow, horse, and ass are strangers to the country, and known only as importations from Europe; but the zebra, elephant, and rhinoceros traverse the woods, and the hippopotamus is found in the rivers. The civet cat is also a native of this country, which likewise abounds in monkeys of all kinds, among which is the chimpanzee, the most intelligent of the tribe. A species of wild dog is said to be found in the woods.

To enumerate the birds of this part of Africa, would be to give a list of almost interminable length; all that are found in other tropical regions, and some that are peculiar, flourish here. The fisher and the sergo, or honey bird, are among the latter, and with whole hosts of pelicans, and nearly every variety of parrot, constitute the chief characteristics of Angolan ornithology. Reptiles numerous, consisting of centipedes, scorpions, and exceedingly venomous serpents. Some of the lizard tribe, as the *cameleon*, are less dangerous than these; but the rivers swarm with two or three species of crocodiles, which make fishing dangerous, and bathing all but fatal. Life is as abundant in the waters as on the land; and besides the usual tenants of the deep, as whales, sharks, dolphins, mackerel, oysters, crabs, &c., the coasts and rivers possess an endless list of creatures, the very names of which are unknown in Europe. Insects are as numerous, beautiful, and destructive as in other tropical climates; and among the last-named class, the termites or white ant stands pre-eminent.

Dr. Frederic Welwitsch, director of the Botanic Gardens of Lisbon, has been engaged for many years in the scientific exploration of the province, of which he has given an account in the 'Annales des Colonies de Portugal.' His travels on the coast extended from Quizembo to the north of Ambriz, in the north, as far south as the mouth of the Coanza, and he afterwards gradually penetrated to the interior of the continent, among countries previously unknown. He ascended the course of the Benga, as far as Sange, the chief place of a district called Golongo-Alto, where he established his headquarters, from which to make diverging excursions among the surrounding precipitous mountains and virgin forests. Travelling eastward, M. Welwitsch, after leaving the district of Ambaca, reached Pungo-Andongo, which he selected as a second centre for his operations in the interior, and hence he explored the banks of the great river Coanza, the mountains of Pedras and Guiga, and the islands of Calemba; the vast forests lying between Quironda and Condo, the salt marshes of Quitage, the river Luxillo, and

the district of Cambambe. During this long journey, M. Welwitsch collected 3,227 vegetable species, belonging to 166 families. He recognises three botanical regions in Angola. 1. The region of the coast of which the thorny plants, the acacias, and the baobabs form the principal vegetation. 2. The mountain region, chiefly characterised by its majestic forests, its orchids, and a palm as useful as beautiful (*the elais guineensis*), and the region of the plateaus distinguished by an immense variety of vegetation, the elegance of the species, and especially by a multitude of aromatic and bulbous plants, and the luxuriant verdure of the vast prairies. The average annual temperature of Angola he found to be 82° F, and that of the region of the plateaus 70°.

Population, Customs, &c.—The population is dense for a barbarous country, the monarch being called Incue, from the great number of subjects under his command. It is not, however, easy to assign the amount, but it may perhaps be taken at between 2,000,000 and 3,000,000. The capital city, St. Paul, or Loanda, contains 8,000. The natives have few of the negro peculiarities in form or feature: they are of ordinary stature, well limbed, and, but for their colour, very like the Portuguese, by whom they are surrounded. Blue eyes and red hair are not uncommon among them. Society is divided into four classes, two free and two slaves; the first two consisting of nobles and husbandmen or artificers; the others of slaves, native born, and those acquired by war or foreign purchase. Marriage is an extremely simple ceremony, a mere agreement between the husband and the father of the woman. The appearance of the first tooth in children is an important epoch; the infant being then carried from house to house, and gifts extorted from friends and strangers. For the rest, they do not differ much from other negroes. Dancing is a favourite diversion, and a religious rite; and, like other African people, their ceremonies are defiled with blood and cruelty. Money is of several kinds: *marked cloths*, the shell of a small fish called *simbo*, a red wood brought from Malemba, and iron, which last was introduced by the Portuguese. The country is parcelled out into an immense number of little lordships, each under a magistrate called a *sova*. It would appear that the king is able to control the petty despotism of these governors; for they have neither wealth nor any other distinction, except the personal respect paid to them, which is, however, very profound, to distinguish them from any other freemen. The religion of the bulk of the people is Feticism, differing in nothing from that on the coast of Guinea (see ASHANTEE); but there are many Christian families among the natives, and at one time the Jesuits had converted nearly the whole population, and established a regular form of church government. But the effect of their labours has now nearly vanished, and the negroes have relapsed into the idolatrous rites of their ancestors. The language is less barbarous and more uniform on this coast than in most other parts of Africa; the whole of Congo, that is, the country between the Coanza and the Zaire, speak a dialect of the same tongue, which is extremely musical and flexible; not particularly sonorous, but very agreeable; with a perfect syntax, and bearing in some points a resemblance to the Latin.

Trade.—The Portuguese established a factory on this coast in 1485, and their power has been constantly extending to the present time. Two of their establishments are 700 m. inland; but it is not to be supposed that they possess a sovereignty over the whole country to this extent.

Their posts, called *fairs*, or *feira*, are little more than entrepôts for trade; though the residents exercise a political power in their immediate neighbourhood. These establishments have, it is said, excited a spirit of manufacture and commerce among the negroes; but we doubt much whether this has been the case in any considerable degree; and whatever beneficial influence they might otherwise have had, has been countervailed and nullified by the support given by the Portuguese authorities to the slave trade. In fact, Angola was for a lengthened series of years, the great mart whence slaves were obtained for Brazil; but the slave trade to that country has now almost entirely ceased. The Portuguese gov. of Angola is understood to embrace the kingdoms of Angola, Benguela, and other Presidencies. Area with Ambriz, Benguela and Mossamedes about 203,110 sq. m. Pop. estimated at 2,000,000; but the Portuguese colony in 1858 was reckoned to number only 659,190. Attention of late has been directed to the cultivation of cotton. A Royal Portuguese decree of December 4, 1861, provided for the granting of waste lands in Angola and Mozambique, for the cultivation of cotton at a nominal rent, and on other advantageous conditions, and at the same time a Mr. John Beaton obtained the concession of 400,000 acres. He had engaged to form a cotton-growing company, but the company not being formed within the contract time, the concession became void. A similar allotment of land to about the same extent was made to a French gentleman, M. de Bellegarde, besides smaller grants to Portuguese speculators for similar purposes. The actual exports of cotton have as yet, however, been inconsiderable. (See PORTUGAL.)

ANGORA, or ENGOURI, the ancient *Ancyra*, a city almost in the centre of Natolia, near the N.E. source of the Sakariah, or *Sangarius*, lat. 40° 29' N., long. 33° 18' E. After undergoing various revolutions, it fell under the dominion of the Romans; and being embellished and otherwise favoured by Augustus, the inhabitants erected to his honour the celebrated *Monsumentum Ancyranum*, a temple of white marble, on the walls of which an account of the principal events in the life of Augustus was inscribed. The ruins of this edifice still remain. Notwithstanding the demise of its powerful patron, Ancyra continued to flourish. It was here that St. Paul preached to the Galatians; and when the Christian religion spread itself all over the world, it was advanced to the dignity of an apostolic see. It came into the possession of the Turks in 1559. The great battle between the Turkish sultan, Bajazet, or Bayazid, and the famous Tartar conqueror Tamerlane, or Timur Bec, which ended in the total defeat and capture of the former, was fought in the vicinity of Ancyra in 1401. It continues to be one of the principal cities of Natolia; and is celebrated for manufactures of stuffs made of the silk-like wool of the *goat of Angora*, a variety peculiar to the country round the town. The population has been variously estimated at from 35,000 to 80,000; but according to the latest accounts it is considerably less, the numbers being 10,000 Mohammedans, 5,000 Armenians and Greeks, and 200 Jews.

ANGOSTURA, a city of S. America, rep. of Venezuela, on the S. bank of the Orinoco, about 240 m. above its embouchure, and about 190 ft. above the level of the sea, lat. 8° 8' 10" N., long. 63° 55' 20" W. It was founded in 1588. Owing to its situation in a fertile country, on a great navigable river, and its command of a very extensive inland navigation, Angostura is favourably situated for commerce, which it carried on to a very considerable extent previous to the revolu-

tionary struggles. These, however, have diminished its commerce, wealth, and population. The last, which in 1807 was estimated at about 8,500, was for a time considerably less, but is again probably about that number. It has a large hall, where meetings of Congress have been held, with an hospital and a college; and is defended by a fort on the opposite bank of the river. Though low, and subject to inundation, the climate is temperate, and not unhealthy.

ANGOULÊME (an. *Iculisma*), a city of France, dep. Charente, of which it is the capital, on a plateau elevated 221 ft. above the river Charente, on the railway from Paris to Bordeaux, 66 m. NE. Bordeaux. Pop. 24,961 in 1861. The old town, which occupies the summit of the plateau, has narrow, crooked streets, and is *triste et laide*. In its centre stands the old castle in ruins. The walls, with which the city was formerly surrounded, have been mostly demolished, and the ramparts converted into public walks. The new town, built on a declivity to the S. of the old town, has broad straight streets, good houses, and is rapidly increasing. There are also several suburbs, of which Houmeau is the most important. Its port is the entrepôt of the commerce of Angoulême: cathedral ancient, but neither large nor beautiful; and, with the exception of the fine bridge over the Charente, and an obelisk erected in honour of the present Duchesse d'Angoulême, the other public buildings deserve no particular notice. The *Place d'Artois* is a fine promenade, and, from its elevated position, commands a view of the valley of the Anguienne and the surrounding country. Angoulême is the seat of a court of assizes, and of a tribunal of original jurisdiction; and has an imperial lyceum; a society of agriculture, arts, and commerce, which publishes memoirs once a month; a large public library, a cabinet of natural history; a school of midwifery; a foundling hospital, and various other hospitals; a theatre, &c. It has also under the Restoration a royal marine school, the buildings of which were on a large scale: this institution was, however, transferred in 1837 to Brest. Angoulême is celebrated for the extensive paper manufactures in its vicinity: it has also fabrics of serges and coarse stuffs, and earthenware; with extensive distilleries, which produce excellent brandy; tanneries, a cannon foundry, a manufacture of arms, a sugar refinery. The *pâtes de perdrix aux truffes d'Angoulême* are sent to all parts of Europe.

Angoulême is very ancient, being noticed by Ausonius, who flourished in the third century. Balzac was a native of the town and so also was the detestable regicide, Ravallac, the assassin of Henry IV. In the vicinity are the ruins of the famous abbey of *la Choroine*, founded in 1122, long the ornament of the Angoumois. This venerable and magnificent structure, after escaping the revolutionary phrenzy, was demolished in 1808. The fountain of *Trouve*, a few miles from Angoulême, is, next to that of Vauluse, the most celebrated in France.

ANGOUMOIS, the name of a district in France previously to the revolution, nearly but not exactly coinciding with the dep. Charente. It formed, in connexion with the district of Saintonge, one of the provinces into which France was formerly divided.

ANGRA, a town and sea-port of the island of Terceira, one of the Azores, being the cap. of the archipelago, and the residence of the governor, at the bottom of a deep bay or creek, lat. 38° 38' 38" N., long. 27° 12' 33" W. Pop. variously estimated at from 10,000 to 15,000. It is beautifully situated

on a hill, rising gradually from the sea. The streets are broad and regular, and the houses, generally of three stories, though gloomy, are well built. It is well supplied with water, but the streets, as well as the inhabitants, are notwithstanding excessively filthy. There are a great number of churches, and it formerly also had various monasteries and convents; but the latter have been dissolved, and the buildings applied to other uses. As a port, Angra has nothing to boast of: it is open to all winds from the SSW, by the S. to the E. The swell from the SW. in particular which sets round Mount Brazil, on the W. side of the bay, is tremendous. In the bad weather months, large vessels anchor in the mouth of the bay, abreast of St. Antonio, in 28 and 30 fathoms, to be ready instantly to put to sea in the event of storms setting in, the coast affording no shelter. The town is defended on the W. by the citadel at the foot of Mount Brazil, and on the opposite side of the bay by the fort of St. Sebastian, the distance between them being about $\frac{1}{2}$ m.

ANGRA, a sea-port town of Brazil, prov. Rio Janeiro, bears SW. distant 78 m. from the city of that name. Its port admits large ships; it is fortified by two redoubts, and has some commerce.

ANGUILLA, or SNAKE ISLAND, so called from its tortuous figure, an island belonging to the British in the W. Indies, being the most northerly of the Caribbee Islands, and separated by a narrow channel from St. Martin's; lat. 18° 8' N., long. 63° 12' E. Area about 35 sq. m. It is 16 m. in length, by about 3 to 1½ m. in breadth. Pop. about 2,500, of whom nearly 2,400 are coloured or black. Surface flat; soil chalky, and not very productive; and there is a deficiency both of wood and water; climate healthy. By far the largest portion is uncultivated. It produces some sugar, with maize and provisions of various kinds. Cotton is exciting attention and about 60 acres are under cultivation. A salt lake in the middle of the island furnishes a considerable supply of salt, and the revenue is chiefly derived from a duty of 5 c. per barrel on salt. The island has no good harbour. The town, an inconsiderable place, stands near the NE. extremity of the island. The island is part of the government of St. Kitt's, and sends one member to the assembly. For local purposes it is governed by a stipendiary magistrate paid from the Imperial Treasury, assisted by a vestry of which he is chairman. The revenue in 1861 was 414*l.* and expenditure 240*l.* Besides the local courts for administering justice there are also supposed to be Courts of Queen's Bench and Commons Pleas, and Chancery in the island! The colonists elect their chief magistrate, subject to the approval of the governor of Antigua.

ANGUILLA, one of the Bahama Islands, about 20 m. lon. and 5 broad; lat. 28° 36' N., long. 79° 20' W.

ANGUILLARA, a town of North Italy, on the Adige, 28 m. S. Padua. Pop. 3,500 in 1862. This is also the name of a town of nearly equal size on the S. side of the lake Bracciano, 16 m. NNW. Rome.

ANGUS. See FORFAR.

ANHALT, a principality of Germany almost surrounded by the Prussian dominions, having Brandenburg on the N., Prussian Saxony on the E. and S., the county of Mansfeldt on the SW., and Brunswick and the Prussian circ. of Magdeburg on the NW. Its greatest length is 60 m., and its breadth varies from 12 to 16 m. Principal river the Elbe, by which it is intersected. Area 869 sq. m. Pop. 181,824 in 1861. It is mostly flat, and is very fertile and well cultivated. It was formerly divided into the three duchies of Anhalt-Bernburg;

Anhalt-Cöthen, and Anhalt-Dessau, but the line of Anhalt-Cöthen became extinct in 1847 and of Anhalt-Bernburg on Aug. 19, 1863, leaving the family of Anhalt-Dessau in sole possession. The consent of the states is necessary to the imposition of any new tax, but by a constitution proclaimed in 1859, the representation of the people is merely nominal. Inhab. mostly Protestants and very industrious. The entire principality furnishes 2,088 men to the army of the confederation. Principal towns, Dessau, Zerbst, Cöthen, and Bernburg.

ANHOLT, a small Danish island in the Cattenat, nearly halfway between Lessee and Zealand. A lighthouse, having the lantern elevated 112 feet above the level of the sea, has been erected on its most easterly promontory, in lat. $56^{\circ} 44' 20''$ N., long. $11^{\circ} 38' 51''$ E.

ANI, former capital of Armenia, now in ruins. It was visited by an English traveller, Mr. John Usher, in 1864, and is thus graphically described:—Making a long circuit, we entered the deserted city by the centre gate, there being three great entrances in the double walls, which were built of large blocks of hewn stone. Over the outer gate was an Armenian inscription, over the inner a leopard was sculptured in bold relief; while near it, on the towers, were carved crosses, ornamented with decorations and tracery of a very delicate nature. We found the ground in the interior covered with fragments of sculptured stones, broken columns, capitals, and carvings. Clambering over the masses of ruins we entered a few of the churches, three or four of which seemed, with the exception that their doors had been carried away, quite as perfect as when just out of the hands of the builder. One of them in particular, which stood just above the bridge that spanned the abyss below, was in complete preservation, the fresco paintings on the interior of the dome retaining their bright colour and hues uninjured by time, the subjects being Christ hiding into Jerusalem, the Virgin at the sepulchre, &c. These churches stand solitary among the ruins, in which, save a few pigeons, no living creatures seemed to exist. In the centre of the city were two lofty octagon towers, on which were small turrets; and not far from them was an isolated steep rock, near the edge of the precipice. This was also covered with scattered fragments of what had once been buildings—the citadel of the fortress city. The walls of the palace yet remain, and are of great extent and solidity. The masonry is perfect, the huge stones are squared and put together with the greatest care, and the whole is covered with the most elaborate carvings, decorations, and mosaics, all of exceedingly delicate workmanship. There were also two mosques; one built on the edge of the precipice, the interior of the dome of which was covered with perfectly preserved arabesques, resembling in character and finish of design those of the Alhambra. (Usher, John, F.R.G.S., from London to Persepolis. 1865.)

ANIANE, a town of France, dep. Herault, cap. cant., 16 m. W. by N. Montpellier. Pop. 3,557 in 1861.

ANJAR, a town of Hindostan, prov. Cutch, cap. district of same name, ceded in 1816 to the British, near the N.E. shore of the Gulf, lat. $28^{\circ} 8'$ N., long. $70^{\circ} 11'$ E. It is fortified, but not strongly. In 1819 nearly half the town was destroyed by an earthquake, in which 165 persons lost their lives. The pop. is estimated at 10,000.

ANJENGO, a sea-port town of S. Hindostan, prov. Travancore, 18 m. NNW. Cape Comorin, lat. $8^{\circ} 37'$ N., long. $76^{\circ} 53'$ N. The E. I. Company had a factory here from 1684 to 1818, when

it was abolished. The best coir cables on the Malabar coast are made here and at Cochín; and pepper, coarse piece-goods, and drugs are exported.

ANJOU, an ancient prov. and gov. of France, now distributed among the depts. of Maine et Loire, Loire Inférieure, Vendée, Indre et Loire, Sarthe, Ille et Vilaine, Mayenne, and Deux Sèvres.

ANKLAM, a town of Prussia, prov. Pomerania, cap. circ. on the navigable River Peene, about 7 m. from where it falls into the strait separating the Isle of Usedom from the continent. Pop. 9,200 in 1861. It was founded in 1188; has a college and three hospitals, with manufactures of cloth and linen, and carries on a considerable trade in ship-building and shipping.

ANKOI, or ANDKHO, a town of Bokhara, 75 m. W. Balkh, lat. $36^{\circ} 48'$ N., long. 66° E. Mayendorff says that it has nearly 4,000 houses, which would infer a pop. of at least from 25,000 to 30,000, consisting principally of Arabs. A small river flows past the town; but as it dries in summer, the inhab. are obliged to supply themselves with water from wells. (Voyage à Boukhara, p. 143.)

ANNABERG (ST.), a town of Saxony, circle Erzgebirge, 8 m. SW. Marienburg. Pop. 9,710 in 1861. It is well built, has three churches, two hospitals, and a gymnasium, with manufactures of lace and ribands. In its vicinity are mines of iron, tin, cobalt, and silver.

ANNAH, a town of Asiatic Turkey, cap. Sanjak, on the Euphrates, 160 m. NW. Bagdad, lat. $34^{\circ} 10'$ N., long. $41^{\circ} 47'$ E. It is finely situated on the route of the caravans that cross the desert of Mesopotamia. It was surprised in 1807 by the Wahabites, who, after committing all sorts of excesses, set it on fire. The pop. does probably not exceed from 3,000 to 4,000. The environs are very fertile.

ANNAMABOE, one of the four fortified posts occupied by Britain on the Gold Coast of Africa, formerly prov. Fanti, empire of the Ashantees, lat. $5^{\circ} 5'$ N., long. $1^{\circ} 15'$ E. It was burnt by the Ashantees in 1808. Pop. probably from 3,000 to 4,000.

ANNAMOOKO, one of the Friendly Islands (which see).

ANNAN, a borough, sea-port, m. town, and p. of Scotland, co. Dumfries. The town is situated on the E. side of the river Annan, which is here crossed by a fine bridge of three arches, erected in 1824, about $1\frac{1}{2}$ m. above its confluence with the Solway Frith, 67 m. S. Edinburgh. Pop. of borough, 3,478 in 1861; inhabited houses, 633; annual value of real property 8,113*l.* in 1864, exclusive of railway; corporation revenue 4,356*l.* in 1863-4. It is clean, well built, neat, and thriving; has a handsome new church and spire; a good natural harbour, which has been much improved by an embankment constructed at the expense of Mr. Irving of Newton; and an academy which is well attended. There is also a cotton manufactory, and ship-building is carried on to a considerable extent; but the principal trade of the town consists in the curing of bacon and hams for the Newcastle and London markets, and in the shipping of corn, fat cattle, and sheep, by steam, for Liverpool. Annan unites with Dumfries, Kirkcudbright, Lochmaben, and Sanguhar, in returning a member to the H. of C. Parliamentary and municipal constituency 176 in 1865.

ANNAN, the river on which the above town is built. It rises on the S. side of Hartfell, a mountain on the confines of the cos. Dumfries and Peebles, near Moffat, and after pursuing a S. course of about 36 m. in a direct line, unites with the Solway Frith, $1\frac{1}{2}$ m. below Annan, to which it

is navigable. It has near its mouth salmon fisheries of considerable value.

ANNANDALE, the name given to the valley or low grounds traversed lengthwise by the river Annan.

ANNAPOLIS, a town of Nova Scotia, on the S. side of the river of the same name, near where it falls into its estuary or basin, on the SW. side of the bay of Fundy, lat. $40^{\circ} 47' N.$, long. $65^{\circ} 50' W.$ The harbour is spacious and secure. This is the oldest European settlement in N. America, having been founded in 1604. It was called Fort Royal by the French; but, on their ceding the prov. to England in the reign of Queen Anne, it received its present name in honour of her Majesty. Notwithstanding it was the cap. of the prov. till the foundation of Halifax in 1780, and its fine harbour, it never attained to any considerable magnitude. At present the fortifications and government buildings are going to ruin. Pop. of co. Annapolis, 16,578 in 1861.

ANNAPOLIS, a city and port of entry of the U. States, cap. Maryland, on the Severn, 2 m. from its mouth, 28 m. SSE. Baltimore. Pop. 4,529 in 1860. It is a handsome, healthy town, with a statehouse, a theatre, &c. The proximity and more advantageous situation of Baltimore as a place of trade, have occasioned the slow growth of Annapolis.

ANNECY, a town of France, dep. Haute-Savoie, at the northern extremity of the lake of the same name, 22 m. S. Geneva. Pop. 10,787 in 1861. The town is pleasantly situated among hills and mountains; and is thriving and industrious, having establishments for the spinning of cotton and silk, with manufactures of earthenware and glass, vitriol, straw hats, white iron and steel. It is the seat of a bishopric, and is very ancient.

ANNET, one of the Scilly Islands, about 1 m. from that of St. Agnes.

ANNONAY, a town of France, dep. Ardèche, being, though not the cap., the principal town of the dep., at the confluence of the Cance and the Deume, 7 m. from the Rhone. Pop. 16,271 in 1861. Annonay is a thriving town, agreeably situated on the elevated uneven ground between the two rivers, with suburbs on the opposite banks; being well, though irregularly built. The only public building worth notice, is an obelisk in honour of the celebrated aeronaut Montgolfier, a native of the place. Annonay is principally distinguished by its manufactures, particularly by that of paper, long reckoned the best in France; and hence the recommendation so frequently seen in French catalogues, of books being printed on *papier fin d'Annonay*. (See ARDECHE.) It has also manufactures of cloth, woollen stockings, and gloves; establishments for the spinning of cotton and silk, part of the latter of a peculiarly fine quality, been employed in the manufacture of tulles and blondes; with dye-works, tanneries, &c. The town is proprietor of a large nursery; and in its vicinity is the first suspension bridge constructed in France.

ALOPSHEHR, a town of Hindostan, prov. Agra, on the W. side of the Ganges, 68 m. ESE. Delhi, lat. $28^{\circ} 23' N.$, long. $78^{\circ} 8' E.$ It is surrounded by a strong mud wall, and is thickly inhabited.

ANSPACH, or **ANSBACH**, a town of Bavaria, cap. circ. Rezat, 24 m. SW. by W. Nuremberg, on a branch line of the railway from Augsburg to Nuremberg. Pop. 12,245 in 1861. It is surrounded by walls, and has four gates; is the seat of the provincial authorities and of a court of appeal. The objects most deserving of attention are the castle and gardens that formerly belonged to the Margraves of Anspach; the church of St.

John, with the tombs of the princes. It has a gymnasium, an hospital, an orphan hospital, a library of 16,000 vols. with a cabinet of medals; and manufactures of woollen and cotton stuffs, earthenware, white lead, and playing cards.

ANSTRUTHER (EASTER and WESTER), two inconsiderable boroughs and sea-ports of Scotland, co. Fife, on the N. shore of the Frith of Forth. Pop. of both boroughs, with their parishes, 1,437 in 1881; 1,593 in 1861. Parl. const. 112 in 1865. The boroughs unite with Drail, Pittenweem, and Kilenriny, in returning a m. to the H. of C.

ANTARCTIC SEA, the name given to the ocean extending from the Antarctic Circle, lat. $60^{\circ} 30' S.$ to the South Pole. It was long considered impenetrable for ships, on account of the ice; but of late years many discoveries have been made, chiefly by English and American explorers. Sir James Ross, in 1841, reached lat. $78^{\circ} 4'$ the highest S. latitude yet reached. Various tracts of barren land have been observed by the explorers, to which the names of Adélie, Balleny, Enderly, Sabrina and Victoria have been given, but a great deal of adventurous research is still necessary before our knowledge of these regions is made copious.

ANTEQUERA, a town of Spain, Andalusia, 80 m. NNW. Malaga, on the railway to Cordova. Pop. 22,060 in 1867. It is built partly on a hill, and partly on a plain; has an old castle built by the Moors, several churches and convents, with establishments for the spinning of silk and cotton, and fabrics of paper, morocco leather, and soap. There are in its neighbourhood quarries of marble of different colours, and plaster, a salt lake, and a mineral spring. It was taken by assault from the Moors, by Ferdinand, afterwards King of Aragon, in 1410. A railway, completed in 1865, places Malaga and Granada in communication with the rest of the Peninsula. The line runs from Malaga by way of Antequera to Cordova.

ANTHEME (ST.), a town of France, dep. Puy de Dome, cap. cant. on the Ance, 9 m. E. Ambert. Pop. 8,226 in 1861.

ANTHONY (ST.), FALLS OF, in the Mississippi, about 2,000 m. above its embouchure, lat. $44^{\circ} 50' N.$ Here the river descends about 74 ft., viz. 16 ft. of perpendicular fall, and 58 more of rapids.

ANTHONY (ST.), a cape on the coast of S. America, Argentine republic, being the S. extremity of the estuary of the La Plata, lat. $36^{\circ} 15' 19'' S.$, long. $56^{\circ} 37' W.$

ANTIBES (an. *Antipolis*), a sea-port town of France, dep. Var, cap. cant., on the Mediterranean, 22 m. ENE. Frejus, on the railway from Toulon to Nice. Pop. 6,829 in 1861. Being an important station on the side of Italy, Antibes is pretty strongly fortified. It is the seat of a tribunal of commerce, and of a school of navigation. The port, which is circular, of considerable size, and easy access, is formed by a mole projecting from the town, the distance from its extremity to the point on which Fort Carré is built being only about 150 fathoms. In most parts the port is shallow; but within and near the mole there are from 15 to 18 ft. water. The inhabitants are principally employed in the fishing and curing of sardines and anchovies.

Antibes is very ancient, having been founded by a colony from Marseilles, 840 B.C. It was afterwards occupied by the Romans, by whom it was fortified and embellished. Having been destroyed by the Saracens towards the end of the ninth century, it continued in a comparatively neglected state, till it was again fortified by Francis I. and

Henry IV. It was unsuccessfully besieged by the English and Imperialists in 1746.

ANTICOSTI, a large island in the mouth of the St. Lawrence, between 49° and 50° N. lat., and $61^{\circ} 48'$ and $64^{\circ} 85'$ W. long. It has an unfavourable soil, is without a single good harbour, and is uninhabited, with the exception of the attendants on the lighthouses, one of which has been erected on its E. point; and another either has been or is about to be erected on its W. extremity.

ANTIGUA, an island belonging to Great Britain, in the West Indies, being one of those denominated the Windward Islands. It was called by the natives *Xaymaca*, but Columbus gave it the name of *Santa Maria de la Antigua*. It is about 25 m. NE. Montserrat, and 40 m. N. Guadaloupe. It is oval-shaped, being 20 m. in its greatest length, and contains about 108 sq. m., or nearly 70,000 acres. The pop. has decreased since 1774, when it had 2,590 whites, and 87,898 slaves. In 1837, the people of colour and whites together were only about 2,000; and the blacks, all of whom were enfranchised in 1834, about 38,000. In 1863, the numbers were—white, 2,556; black, 27,237; coloured, 6,619; total, 36,412. Antigua has little of the mountainous character of the neighbouring islands, the greatest elevation being only 1,210 ft. On approaching it from the sea, instead of mountains clothed with rich foliage and luxuriant vegetation, a barren rugged coast, almost destitute of verdure, presents itself. A few miles, however, from the shore, the prospect is more pleasing, the country being agreeably diversified with hill and dale; and when not parched by the droughts, to which it is subject, green fields of canes, clumps of feathery bamboos, flowers of dazzling brilliancy, and verdant cliffs hung with beautiful varieties of intertropical plants, enchant the voyager. The island has neither fountain nor river, and but a few scanty springs among the hills. Rain water, preserved in tanks, is substituted, and it is found particularly light and pleasant to the palate. The soil in the high lands is a reddish clay on a substratum of marl; that in the lowlands, a rich dark mould on a substratum of clay. The climate is remarkable for its want of moisture, though the average fall of rain be 45 inches. The dew is scanty, and the rainy season very uncertain, but it may be said generally to extend from June to the end of the year. The alternations of temperature are very slight, the thermometer seldom ranging more than 4° in twenty-four hours. The sugar cane is the principal article of cultivation; but sufficient ground provisions are also procured in favourable seasons for the supply of the inhabitants. The crops vary considerably. In the years 1770, 1778, 1778, there was no produce of any kind, the canes and ground provisions being destroyed by drought, and the inhab. would have perished, but for the importation of flour and corn-meal from America. The total value of imports in 1888 was 170,834*l.* ster., the principal of which were grain, meal, and flour, cotton manufactures, linens, woollens, and fish. In 1884, the value of the imports was 176,076*l.*; in 1858 the imports amounted to 266,365*l.*, but had diminished in the year 1863 to 178,912*l.* The exports, which in 1888 were 325,840*l.*, had fallen in 1863 to 239,630*l.* The produce in 1863 was 13,558 hhds. of sugar, 939 puncheons of rum, and 6,018 puncheons of molasses.

The government is composed of a governor, an executive council and a legislative council, both appointed by the crown, and an elective assembly of twenty-seven members. The courts of equity and law are the same as in Great Britain. The governor

for the time being acts as chancellor of the court of equity, and suitors have a right of appeal from his decrees to the king in council, on giving security for costs. There are 14 places of worship belonging to the Church of England, 18 Moravian, 10 Wesleyan. 7,456*l.* is annually spent in the support of poor-houses, hospitals, board of health, and for medical relief, vaccination, &c. The manners, customs, and habits of the people differ in no degree from those of the other West India Islands. The revenue, in 1831, was 16,097*l.*, the expenditure 16,708*l.*; in 1863, 85,348*l.* and 85,474*l.* The imperial expenditure for the colony in 1863 was 6,668*l.* The island contains six towns and villages, viz. St. John's, Parham, Falmouth, Willoughby Bay, Old Road, and James Fort. St. John's the capital, on the NW. side of the island, lat. $18^{\circ} 22'$ N., long. $64^{\circ} 42'$ W., is regularly built, partly on a high rock, connected with the mainland by a causeway, which is, however submerged at high water. In the harbour there is sufficient depth of water for merchant vessels, and perfect security in all winds. English harbour, on the S. side of the island, is, however, the best harbour in Antigua, and is indeed one of the best in the West Indies. It has water for ships of any size, and is well sheltered in all weathers. It has a dock-yard, a naval hospital, and every convenience for careening and repairing ships. Antigua is the oldest W. I. colony, after St. Kitt's and Barbadoes, in possession of the English, having been acquired in 1632. Its planters have been remarkable for their leniency to the slaves, who were finally enfranchised in 1834. The amount awarded to Antigua out of the 20,000,000*l.* granted for the freedom of the slaves, was 425,866*l.* 7*s.* 0*d.*, those of Anguilla included.

ANTILLES. See WEST INDIES.

ANTIOCH (vulg. *Antakia*) (*Antioch*), properly Antiocheia (*Ἀντιόχεια*), a famous city of Syria, and once the residence of its sovereigns, on the left bank of the *Aazy* (*Orontes*), 20 m. above its mouth; 58 m. E. Aleppo, and 29 m. S. Iskenderoun, in lat. $36^{\circ} 12'$ N., long. $36^{\circ} 15'$ E. The population, which at its most flourishing epoch probably amounted to 400,000, is estimated (1863) at 18,000, of whom 2,000 are Greeks, the others Armenians and Mussulmans.

Modern Antioch does not cover more than a sixth part of the area of the ancient city, the walls of which, though ruinous, may still be distinctly traced throughout their whole circuit. The Bab-Boulous (Gate of St. Paul), the entrance from the E. is now $\frac{1}{2}$ m. from the nearest houses; and, in every other direction except the W., the buildings have similarly receded from their old limits. Volney describes it as a wretched collection of huts, built of mud and straw, with narrow and miry streets, and exhibiting every appearance of misery and desolation. Kinneir, however, says that 'the houses are in the Turkish fashion, small, but neatly built of hewn stone.' But though this be the case with some of them, the majority are constructed of slight materials; and, unlike the houses of other Syrian or rather Eastern towns, have sloping roofs covered with thin tiles. There are ten or twelve mean and unimportant mosques, with low minarets; but in this city, so famous in the annals of Christianity, there is not at present a single Christian church. The baths and bazars are numerous, but neither exhibit anything remarkable. It has manufactures of coarse pottery, cotton stuffs, leather, &c.; but the greater part of the inhabitants are engaged in the cultivation and manufacture of silk.

All traces of its famous theatres, its circus, and its magnificent baths, have irretrievably perished.

For about $\frac{1}{2}$ m. on the E. of the town a part of the ancient pavement still exists: and on the S. are the ruins of an aqueduct, which conveyed a supply of water from the foot of the Djebel Okrah (an. *Mr. Cassius*). The old walls are, however, interesting monuments. The situation of the ancient city was most delightful. It occupied the summits and slopes of two considerable hills, and the plain between them and the river. Over these hills and across this plain the walls were built nearly in a rectangular form, inclosing a space of several m. in circumference. They are of various ages, part being, apparently, as old as the first foundation of the town, part referable to the era of Roman power, and part the work of the Crusaders. They are carried over the beds of mountain torrents, and down the sides of almost perpendicular precipices, filling up the intervening gorges and ravines, so that they vary from 20 or 30 ft. in height to upwards of 70. The oldest portion of the walls is also the most perfect; it stands upon a rock, and, having been originally well built, has resisted the influence of time and the shocks of earthquakes. There are two bridges, one of five arches with piers, cut out of the rock, across a ravine; and one of inferior dimensions, across the Orontes. In the sides of the mountains to the SE. of the town are numerous excavations, apparently intended for cemeteries or catacombs, some of which are now used as places of worship by the Christian population.

The ancient Syrian name of Antioch is said to have been *Riblah*; but being enlarged and beautified by Seleucus Nicator, he gave it, B.C. 301, after his father, the name of Antioch. It became at once the capital of the Macedonian kingdom of Syria, and continued for nearly 2½ centuries to be the residence of the monarchs of the Seleucid dynasty. About 65 years B.C. the conquests of Pompey brought Antioch, with the whole of Syria, under the control of Rome. At this era it consisted of four distinct towns, each having separate fortifications, the whole being surrounded by a common wall; hence it was sometimes called *Tetrapolis*. Under the Romans, Antioch continued to advance in importance: it was the centre of an extensive commerce, the residence of the governor of Syria, the frequent resort of the emperors, and the most celebrated town of the empire (the capital only excepted) for the amusements of the circus and the theatre. It is intimately connected with the early history of Christianity, the doctrines of which were planted in it by Paul and Barnabas; and in it, also, the term *Christian* had its origin as a distinctive appellation. (*Acts xi. 26.*) It has suffered severely on many occasions from earthquakes. One of the most celebrated and disastrous of these calamities occurred A.D. 115. The emperor Trajan, who had just concluded his victorious Parthian campaign, being then in the city, it was crowded with troops and strangers from all parts of the ancient world. The shocks are said to have continued for a lengthened period, and to have been most severe; the emperor himself narrowly escaped with some bruises; and many thousands of individuals were buried in the ruins of the city. (*Ancient Univer. Hist. xv. 138, 8vo. ed.*) It again suffered severely from similar catastrophes in the years 340, 394, 396, 458, 526, and 588: the last destroying, it is said (but such statements are almost always much exaggerated), above 60,000 persons. Notwithstanding these repeated afflictions, and its devastation by Choroas the Persian in 548, it revived again and again, and continued to be the 'Queen of the East,' and a place of great importance, till 638, when it fell under the power of the Saracens. In 1098 it was taken by the

Crusaders, and continued to be the capital of a Christian principality till 1269, when it was taken by the Egyptian sultan, by whom it was partially demolished. It was added to the Ottoman empire, by Selim I., in 1516; but its commercial importance had already vanished; and it has continued, under the barbarous sway of the Turks, to decline till it has reached its present state of comparative insignificance.

The valley of the Orontes spreads, in the neighbourhood of Antioch, into a fertile plain, 10 miles in length, and 5 or 6 in width; the town and river, occupying the extreme edge, being close to the bounding mountains on the SE. The soil is excellent, consisting of a rich alluvial deposit, producing figs, olives, vines, and mulberries in great abundance. The deserted spaces within the old walls are one continued garden; but in general the country is ill-cultivated, being abandoned to the Turkmans and other wandering tribes. Pliny speaks of a part of Antioch lying on the right bank of the river. (*Hist. Nat. v. 21.*) This must have been a suburb, and probably, as in the case of Aleppo, as extensive as the town within the walls; but no vestiges of it now remain.

Modern critics and travellers differ in opinion as to the site of the grove, and village of Daphne, and temple of Apollo, in the immediate vicinity of Antioch. Gibbon has given the following description of this long-famous seat of religion and pleasure. 'At the distance of 5 m. from Antioch, the Macedonian kings of Syria had consecrated to Apollo one of the most elegant places of devotion in the pagan world. A magnificent temple rose in honour of the God of light; and his colossal figure almost filled the capacious sanctuary, which was enriched with gold and gems, and adorned by the skill of the Grecian artists. The deity was represented in a bending attitude, with a golden cup in his hand, pouring out a libation on the earth, as if he supplicated the venerable mother to give to his arms the cold and beauteous Daphne; for the spot was ennobled by fiction, and the fancy of the Syrian poets had transplanted the amorous tale from the banks of the Peneus to those of the Orontes. The ancient rites of Greece were imitated by the royal colony of Antioch. A stream of prophecy, which rivalled the truth and reputation of the Delphic oracle, flowed from the Castalian fountain of Daphne. In the adjacent fields, a stadium was built by a special privilege which had been purchased from Elis: the Olympic games were celebrated at the expense of the city; and a revenue of 30,000*l.* sterling was annually applied to the public pleasures. The perpetual resort of pilgrims and spectators insensibly formed, in the neighbourhood of the temple, the stately and populous village of Daphne, which emulated the splendour, without acquiring the title, of a provincial city. The temple and the village were deeply bosomed in a thick grove of laurels and cypresses, which reached as far as a circumference of 10 m., and formed in the most sultry summers a cool and impenetrable shade. A thousand streams of the purest water springing from every hill, preserved the verdure of the earth and the temperature of the air; the senses were gratified with harmonious sounds and aromatic odours; and the peaceful grove was consecrated to health and joy, to luxury and love. The vigorous youth pursued, like Apollo, the object of his desire, and the blushing maid was warned by the fate of Daphne to shun the folly of unseasonable coyness. The soldiers and the philosophers wisely avoided the temptation of this sensual paradise, where pleasure, assuming the character of religion, imperceptibly dissolved the firmness of manly virtue. But the groves of

Daphne continued for many ages to enjoy the veneration of natives and strangers; the privileges of the holy ground were enlarged by the munificence of succeeding emperors; and every generation added new ornaments to the splendour of the temple.' (Decline and Fall, cap. 28.)

ANTIPAROS (an. *Oliaros*), a small island of the Grecian Archipelago, group of the Cyclades, between Paros and Siphanto, $\frac{1}{2}$ m. W. of the former, and 16 m. E. of the latter. It is about 7 m. in length from N. to S. by about 8 m. breadth, its highest point being in lat. $36^{\circ} 59' 40''$ N., long. $25^{\circ} 3' 60''$ E. It consists of a mass of marble covered with a moderately fertile soil; and, exclusive of some cotton and wine, it produces barley enough to suffice for its inhab., consisting of some 60 or 70 families who live in a miserable village about 1 m. from the shore, and are partially employed in fishing. Though hardly worthy of notice in other respects, this island is famous for an immense subterranean cavern or grotto. Its entrance is on the side of a hill under a low arch. The passage thence to the cavern is long, narrow, and in parts precipitous. 'The mode of descent is by ropes, which are either held by the natives, or joined to a cable fastened at the entrance round a stalactite pillar. In this manner we reached the spacious chambers of this truly enchanted grotto. The roof, the floor, the sides of a whole series of magnificent caverns, are entirely invested with a dazzling incrustation, as white as snow. Columns, some of which were 25 ft. in length, pended in fine icicle forms above our heads; fortunately, some of them are so far above the reach of the numerous travellers who during many ages have visited this place, that no one has been able to injure or remove them. Others extend from the roof to the floor, with diameters equal to the mast of a first rate ship of the line. The last chamber into which we descended surprised us more by the grandeur of its exhibition than any other. Probably there are other chambers still unexplored.' (Clarke's Travels, vi. p. 125, 8vo. ed.)

The era of the discovery of this cavern in modern times is not ascertained; but it was first made fully known by the visit paid to it by M. Nointel, ambassador from France to the Porte, who descended into it with a cortège of no fewer than 500 individuals, at Christmas, 1678. On this occasion it was brilliantly illuminated. His excellency and suite remained in it for three entire days, and celebrated high mass at midnight on Christmas in this most magnificent of subterranean temples. It was also visited by the learned and excellent traveller, M. Tournefort, who supposed that he saw in it conclusive proofs of his singular theory as to the vegetation of stones. (Tournefort Voyage du Levant, i. pp. 185—195, 4to ed.) It has since been repeatedly visited by other travellers; and it is said that the smoke from the numerous torches that have thus necessarily been carried within its recesses, have somewhat impaired its otherwise unrivalled splendour and brilliancy.

ANTIVARI, a town of Turkey in Europe, 19 m. W. Scutari, within a short distance of the sea, lat. $42^{\circ} 15' 20''$ N., long. $19^{\circ} 4' 15''$ E. Pop. estim. at 4,000. It is defended by a castle on a steep rock, is the residence of a Greek archbishop, and the entrepôt of the merchandise of the valley of Drin.

ANTOING, a market town of Belgium, prov. Hainault, 4 m. SE. Tournay. Pop. 2,200 in 1856.

ANTONIN (ST.), a town of France, dep. Tarn et Garonne, cap. cant., in a spacious valley at the confluence of the Aveyron and the Bonnette, 22 m. ENE. Montauban. Pop. 5,152 in 1861. The waters of the Bonnette being charged with the

refuse of various tanneries established on its banks, render the town at times unhealthy. It has fabrics of serges and other woollen stuffs, and paper; and a considerable commerce is carried on in leather, prunes, and juniper.

ANTRAIGUES, a town of France, dep. Ardèche, cap. cant. 11 m. W. Privas. Pop. 1,576. Near the place is a singular causeway, called the *Chaussée-des-Géants*, formed by colonnades of basalt, 700 yards in length.

ANTRIM, a marit. co. Ireland, prov. Ulster; its greatest length being about 55 m., and its greatest breadth about 32 m.; having N. and E. the Irish Sea, S. Lough Neagh and Down, and W. Londonderry, from which it is separated for the greater part by the Bann. It contains 758,866 imp. acres, of which 225,970 are mountain and bog, and 49,790 water, being part of Lough Neagh which lies principally within this county. The N. and E. districts are mountainous, and there are some high rugged grounds in other places, while the flat ground along Lough Neagh is in many parts boggy. Still, however, there is a large extent of fertile ground. Property in very great estates; but large portions of some of them are leased for ever. Farms small: agriculture in most respects similar to that of Down (which see). The country round Belfast has more of an improved appearance, and the people are more orderly and industrious than anywhere else in Ireland. Linen manufacture universally diffused: the manufacture of cotton has also been successfully introduced, with some others of inferior importance. A coal mine is wrought at Ballycastle; but not extensively, the coal being of bad quality. Besides the Bann and the Laggan, which form part of its S. boundary, it is watered by many smaller streams, but none of them are navigable. The N. coast is remarkable for its basaltic columns, which are particularly conspicuous at the far-famed Giant's Causeway (which see). The lofty promontories of Bengore and Fairhead are also, in a great measure, composed of these columns. There are considerable salmon fisheries on the coast. Carrickfergus is the county town; but the principal towns are Belfast, Lisburn, Antrim, and Larne. Pop. 262,860 in 1821; 316,909 in 1831; and 247,564 in 1861: it contains 14 baronies and 75 parishes; and returns five m. to the H. of C., viz. two for the co., two for Belfast, one for Carrickfergus, and one for Lisburn. Parl. constituency of co., 10,921 in 1865.

ANTRIM, an inland town of Ireland, cap. co. Antrim, prov. Ulster, on the Six-mile-water near its embouchure in Lough Neagh, 94 m. N. Dublin. Its ancient name was Entrim, or Entrim-neagh, and it is supposed to owe its origin to a religious house founded by a disciple of St. Patrick. It suffered much in the wars with the Danes and with the first English settlers; and in 1641 was burnt by the Scotch, under Munroe. In 1798 it was the scene of a sanguinary conflict between the king's troops and the insurgents, in which the former were victorious, but with the loss of Lord O'Neil, who commanded a regiment of militia. In 1831 the pop. of the par. was 5,543; of which 750 were of the E. Church, 1,252 R. Catholics, and 3,541 Prot. dis; in 1861 the pop. of the par. was 4,659, and of the town, including Massarene, 2,135. The town, lying in the bosom of a fertile valley, consists of two main streets, with several branches. Houses substantially built of stone, several exhibiting proofs of considerable antiquity. Its public buildings are the par. church, an ancient edifice, but lately repaired; a spacious R. C. chapel; two places of worship for Presbyterians; two for Methodists; and one for the Society of Friends. There are schools for boys and girls, under the en-

dowment of Erasmus Smith; and several private schools, in all of which nearly 700 children receive instruction; also a mendicinity society, and a savings' bank. Previously to the Union the borough sent two m. to the Irish parl. The court-house, in the centre of the town, is used for holding general sessions of the peace in April and October, and petty sessions on alternate Tuesdays. The court-leet and court of record of the manor of Moylenny—within which the town is, and at which the seignior, appointed by the Marquis of Donegal, presides—are also held here; the latter court decides pleas of debt to the amount of 20*l*. Part of the market-house is used as a bridewell. Close to the town is the residence of Viscount Ferrard, and about $\frac{1}{2}$ m. distant is a perfect pillar-tower, 95 ft. high, with a conical roof. The manufactures are those of linen, cotton, and hosiery. There are several bleach-works in the neighbourhood; and two paper-mills, one of which first introduced into Ireland the process of making paper in webs like cloth, instead of separate sheets. There are also several flour and meal mills, and a brewery. Most of the grain is sent to Belfast, its conveyance being facilitated by the contiguity of Lough Neagh, where a small quay has been erected at the mouth of the Six-mile-water. Markets are held on Tuesdays for grain, and on Thursdays for general purposes; and fairs on Jan. 1, May 12, Aug. 1, and Nov. 12. Antrim is a station on the Belfast and Ballymena railway, 14 m. NW. Belfast.

ANTWERP (Ger. *Antwerpen*, Fr. *Anvers*), a marit. city of Belgium, cap. prov. and arrond. of same name, on the N. bank of the Scheldt, 26 m. N. Brussels, 52 m. E. Ghent, on the railway from Brussels to Rotterdam. The city is in the shape of a bow, the arch being formed by the walls, and the chord by the river. A strong pentagonal citadel, built by the Duke of Alva in 1567, and improved by the French, stands on the S. side of the town, which is farther defended by various forts on both sides the river. Though much declined from its former prosperity, Antwerp is a well-built fine old city, and is in various respects highly interesting. The principal street, Place de Meer, rivals any in Europe. It is about the width of Portland Place, but the variety and richness of the architecture render it far more magnificent. The older and narrower streets, bordered by lofty houses with their gables to the street, are singularly picturesque. Antwerp had in 1846 a pop. of 88,487, and of 114,669 in 1861. The great boast of Antwerp is its cathedral, a superb Gothic structure, begun early in the fifteenth, and not finished till the sixteenth century. Its spire, of the most beautiful and delicate workmanship, is said by Schreiber and others to be 466 ft. high; but according to a statement in the 'Penny Cyclopædia,' this is 100 ft. too much, the height being there affirmed to be only 366 ft. The interior corresponds in grandeur with the exterior, and it contains two famous pictures of Rubens; one of which, the 'Descent from the Cross,' is generally regarded as his *chef-d'œuvre*. Of the other churches, that of St. James, which contains the tomb of Rubens, St. Andrew, and St. Paul, are the most celebrated. All of them are adorned with fine paintings. The Bourse, or Exchange, is one of the finest buildings of its class in Europe: it said to have served as a model for the London Exchange, burnt down in 1837. The *Hôtel de Ville*, a marble structure, rebuilt in 1581 after being destroyed by fire, is a magnificent fabric. The convent of the Recollets has been converted into a museum, in which is a superb collection of paintings, including many that were formerly

scattered among the different churches and convents. It comprises some of the choicest specimens of the masters of the Flemish school; as Rubens, Van Dyke, Jordaens, Van Vien, and Martin de Vos. Antwerp has a theatre; an academy of painting (St. Luke's), which originated in the 16th century; a royal academy of the fine arts, established in 1817; an academy of sciences; an Athenæum, or college; Latin, medical, and naval schools; a gallery of sculpture; a public library, with 15,000 vols.; a botanical garden; with various learned societies, and many good private collections of works of art. Its charitable institutions include several hospitals, asylums, and work-houses. It is the seat of the courts of assize for the province; of a tribunal of original jurisdiction, a commercial tribunal, &c. The people have every appearance of being in comfortable circumstances, and are quiet and orderly. The upper classes speak French, and the lower Flemish.

The manufactures are very various, and are of considerable importance and value. They comprise fabrics of silk and cotton stockings, thread and tape, linen and calico printing. Embroidery, bleaching, sugar-refining, and ship-building are extensively carried on. The lapidaries of Antwerp are very skilful in the cutting of diamonds and other precious stones.

The depth of water in the river opposite to the city is from 32 to 40 ft. at ebb tide, with a rise at springs of from 12 to 14 ft.; and as this depth is increased towards the sea, Antwerp is a peculiarly eligible situation for the formation of dock-yards and the building of large ships. Its capability in this respect did not escape the observation of Napoleon, who endeavoured to raise it to the first rank as a naval arsenal. His plans in furtherance of this object were judiciously devised on a very grand scale, and were zealously prosecuted. Two large basins, capable of admitting ships of the line, were excavated on the N. side of the town; one comprising an area of 17, and the other of 7 Eng. acres. Attached to these was an extensive dockyard, with careening and repairing docks, storehouses, &c., all planned and executed in the best and most approved manner, and at an immense expense. On the downfall of Napoleon the dockyard, with its fortifications, was completely destroyed; and it was even debated whether the two great basins should share the same fate. Luckily, however, they were preserved; and being converted into commercial docks, are of the most signal service to the trade and navigation of the city. The fleet and naval stores in the arsenal, when it surrendered to the allied forces in 1841, were divided; two-thirds being assigned to France, and one-third to the King of the Netherlands.

Her fine river, and the numerous canals with which it is united, give Antwerp great advantages as a commercial emporium; and during the early part of the 16th century she was one of the first trading cities of Europe. Owing, however, to the ascendancy and jealousy of the Dutch, and the supineness of her rulers, her foreign trade was nearly annihilated during the seventeenth and eighteenth centuries. But the navigation of the Scheldt, which had been formally closed by the treaty of Westphalia, was re-opened on the occupation of Belgium by the French, and since the peace of 1815 the trade of the town has rapidly increased; and the probability seems to be, looking at the natural advantages of her situation, that it will go on increasing. The greater part by far of the foreign trade of Belgium centres here. The imports consist principally of wheat, coffee, sugar, cotton, tobacco, and all sorts of colonial produce; with cotton stuffs, wine, hardware, ashes, coal, hides, pepper,

indigo and other dye-stuffs. The timber used in ship-building is mostly brought by water from the interior. The exports consist chiefly of corn, linseed, flax, bark and madder, linen, lace, carpets, tallow, hops, eggs, paper, machinery, and fruit. In 1861, 1,354,967 qrs. of grain and flour were imported into, and 98,893 qrs. exported from, Antwerp.

The increase in the trade of Antwerp is evinced by the fact, that while only 681 ships arrived at the port in 1824, and 800 in 1825, there arrived in 1836, 1,245 ships of the burden of 176,079 tons, and in 1837, 1,426 ships of the burden of 225,030 tons. In 1861, 2,778 vessels entered the port, and 2,786 cleared. Antwerp is connected by railway with Rotterdam, Ghent, Malines, and Brussels, and is an important point in the Belgian system of railways, through which it is connected with the railway systems of France and Germany. There is regular steam packet communication between Antwerp, London, and Hull.

Antwerp has produced many distinguished men, being the birthplace of the painters Teniers, Van Dyke, Jordaens, and Crayer; the geographer Ortelius, and the admirable engraver Edelinck.

Antwerp is very ancient. Lodovico Guicciardini, in his 'Descrizione di Paesi Bassi,' describes it in 1560 as a city of vast wealth and the most extensive commerce; adding, that it was no uncommon thing for 500 ships to enter and leave its port in a single day! And making every allowance for the exaggeration obvious in this statement, there is no doubt that it then enjoyed a more extensive foreign trade than any other city in the N. of Europe. But this prosperity was destined to be of short duration. In 1576 it was sacked and partly burned by the Spaniards. In 1585, it was invested by the famous Alexander Farnese, prince of Parma, who took it after a lengthened and memorable siege. After its capture the greater part of its merchants and principal people emigrated to Amsterdam and other towns in the United Provinces, carrying with them their capital, skill, and connections. The ruin of its trade dates from this epoch, and was consummated by the Dutch obtaining the command of the river, and by the stipulation in the treaty of Westphalia by which, as already seen, it was regularly closed. In 1794 it fell into the hands of the French, who made it the capital of the department of Deux Nethes, and held it till 1814. On the revolt of the Belgian provinces in 1830 the Dutch garrison continued to hold the citadel for the King of the Netherlands: and the latter having refused to make it be evacuated, agreeably to the determination of the great powers, a French army of 65,000 men, under Marshal Gerard, entered Belgium in November, 1832, to compel its evacuation. The details of the siege are well known. The trenches were opened on the 29th November; and after an obstinate, but not a skilful or energetic defence, the citadel surrendered on the 24th of December. In recent times, particularly since the year 1848, the population of Antwerp has taken up a somewhat hostile position against the Belgian government, owing chiefly to the determination of the latter to surround the town with new and extensive fortifications, which, it is feared by commercial men, will interfere with trade and shipping, and lead to possible ruin in another war.

ANZIN, a village of France, dep. du Nord, 8 m. W. Valenciennes, on the railway from Valenciennes to Douay. Pop. 6,305 in 1861. The country near Anzin is the seat of the richest coal mines in France. They have been wrought since 1734, and some of the pits are as much as 1,500 ft. in depth. The mines of Anzin, Vieux Condé, and Furnes,

are said to employ in all above 4,000 work-people, and to furnish annually nearly 3,000,000 hectolitres of coal. There are also iron-foundries and glass-works.

AOR, or AUR (*Pulo*), an island in the China Sea, off the E. coast of the Malay Peninsula, 3 m. by $\frac{1}{2}$ m. in diam. Est. pop. 1,400. It is double-peaked, the one peak 1,805 and the other 1,520 ft. in height. On the NW. side there is a bay sheltered from the NE. monsoon, in which ships anchor in stormy weather, awaiting a favourable change for entering the Straits of Singapore.

AOSTA, a town of Northern Italy, cap. prov. same name, at the confluence of the Butera with the Dora, at the opening of the two valleys of the Great and Little St. Bernard, 49 m. NNW. Turin. Pop. 7,880 in 1861. It has straight broad streets; and many of the houses having gardens attached to them, it covers a large extent of ground. It is the seat of a council of justice, and of a bishopric; but is principally distinguished by its ruins of edifices constructed by the Romans, among which are a triumphal arch, a superb gate with three arches, and the remains of an amphitheatre. It received different names from the Romans, being sometimes called *Civitas Augusti*, *Augusta Pretoria Julia*, and *Augusta Salassiorum*; the latter from its having been the capital of the Salassii, subdued by Terentius Varro.

APENNINES, the name given to the mountain system which traverses the whole length of Italy.

Umbrosæ mediæ qua collibus Apenninus
Erigit Italiam, nullo qua veritæ tellus
Altius intumuit, propinque accessit Olympo.
Mons inter geminas mediæ se porrigit undas,
Inferni superque maris: collesque coercent,
Hinc Tyrrhena vado frangentes æquora Pisæ,
Hinc Dalmaticis obnoxia fluctibus Ancon.
Lucan. lib. 11.

At its W. extremity this range is so closely connected with the Alps, that it may be considered as an extensive offset of that great system. It is difficult to determine where the Alps terminate and the Apennines begin; some think that the road over the Col di Tende (7° 40' E. long.) forms the boundary; others assign for it that road which begins on the N. at Alessandria, runs in the valley of the Bormida to Acqui, Spigno, &c., and terminates on the coast at Savona, rising at its highest point to 4,460 ft. above the sea; others think that the sea Alps extend to the road which leads from Novi on the N. over the Pass of the Bocchetta (2,550 ft.) to Genoa on the coast.

The Northern Apennines extend from the Pass of the Bocchetta E., with a slight declination to the S. through three degrees of longitude (9° and 12°) to Monte Falterona, lying E. of Florence.

The Central Apennines extend from Monte Falterona SE., with some bends to either side, as far as Monte Velino, or nearly two degrees of latitude (44° and 42°).

The Southern Apennines, beginning at Monte Velino, run ESE. between 42° and 41° N. lat. South of the last-mentioned parallel, between the towns of Conza, Acerenza, and Veroesa, and at the sources of the Brandano, they divide into two branches; of which the E., extending first E. and then SE., terminates at Capo de Leuca, opposite Corfu. The W. range runs between 41° and 39° N. lat., nearly SSE., and between 80° and 38° SSW., and terminates with the Capo dell' Armi on the S. extremity of the Straits of Messina.

The Northern Apennines, which, near the Pass of the Bocchetta, are of moderate height and breadth, occupy farther E. a greater space and rise to a higher elevation. The highest summits are between 10° and 11° E. long., where Monte

Pellegrino rises to 5,161 ft. and Monte Cimone to 6,975 ft. Their northern declivity towards the plain of the Po is gradual and gentle; but towards the S. they lower with an abrupt and steep descent. On the S. they send off some lateral ranges, among which that which is called the Alpi Apnani is the most remarkable, and highest. It leaves the main range W. of Monte Pellegrino, and is separated from it by a considerable depression. It extends southward, and terminates at a short distance from the sea, near the towns of Massa and Carrara. It forms a mass of finely crystallised limestone nearly 80 miles long, and scarcely ever at a less elevation than 4,000 ft. above the sea, rising often much higher, as in the Panni della Croce, at the S. extremity, 6,102 ft., the Pizzo d'Uccello, at the NW. end, 6,147 ft., and Monte Sauro, near Carrara, 5,540 ft. On the slope of the last-mentioned mountain the quarries are worked, from which, nearly for 2,000 years, the finest marble has been extracted.

Besides the road over the Bocchetta, the N. Apennines are traversed by three roads; one begins at Parma, runs over the plain to Fornovo, and then in the valley of the Taro to the upper part of the range, which it crosses by the Pass of Cento Croci; it afterwards descends to Pontremoli, and then, mostly in the valley of the Magra, to the Gulf of Spezia. Farther E. is the road between Modena and Pistoja; it runs through Parvallo, Pieve Pelago, on the west of Monte Cimone, and traverses the range by the Pass of Fimalbo. The third road unites Bologna with Florence; it runs from Bologna over the plain of Lombardy to Lofano, crosses the range by the Pass of Pietra Mala, at an elevation of 3,284 ft., and descends into the valley of the Sieve, whence it passes over a lateral ridge of moderate elevation to Fiesole and Florence.

The Central Apennines may be divided into two parts. Between Monte Falterona (S. of 44°) and Monte Sibilla (S. of 48°) their general direction is SE., and though their upper declivity is very steep, they do not seem to rise to a great elevation, one of the highest summits, Cima de Vennina, hardly exceeding 4,000 ft. Between Monte Sibilla and Monte Velino (N. of 40° lat.) the Apennines attain their greatest elevation. Monte Sibilla rises to 7,212 ft., and Monte Velino to 8,183 ft. Nearly at equal distance from either, and near the source of the Velino, two lateral ranges branch off, which are overtopped by high summits; on that which runs to the SE., towards the Adriatic Sea, is the Gran Sasso d'Italia, whose summit, the Monte Corno, attains 9,521 ft. above the sea, and is the highest in the range. On the W. lateral range is the Terminello Grande, 7,034 ft. above the sea. Numerous are the lateral ridges which branch off from the Central Apennines. Those running towards the Adriatic Sea, form nearly right angles with the principal range, preserve for some distance a considerable elevation, and lower afterwards rapidly but gradually. They terminate with hills, at no great distance from the shore. The lateral ridges, which traverse the much more extensive country between the Apennines and the Mediterranean, run mostly parallel to the principal range, so that nearly all the rivers of this region run in valleys extending SE. or NW., and form as it were terraces of different elevation, by which the country gradually lowers towards the sea. In these lateral ridges some summits attain a considerable elevation, as Monte Amiata, W. of Radicofani (S. of 48° N. lat.) which rises to 5,794 ft.

Two roads traverse the N. portion of the Central Apennines. The northern begins on the side of

the Adriatic at Fossombrone, on the Metauro; runs S. to Gagli, and passes over the range between this place and Sigillo, whence it continues to Necera and Foligno, and hence by Spoleto, Terni, and Narni, to Rome. The S. road begins at Ancona, runs S. to Loreto, and hence W. to Tolentino and Belforte; between the last-mentioned place and Foligno, it passes the range at some distance N. of Monte Sibilla. Only one road traverses the southern higher part of the Central Apennines. It begins on the N. at Terni, on the Nera, a tributary of the Tiber, passes hence to Rieti and Civita Ducale, on the Velino, whence it traverses the range by a long mountain-pass, which terminates near Aquila, on the Alerno, and thence the road continues to Sulmona.

The undivided portion of the S. Apennines resembles, in part, the Central Apennines: its off-sets, towards the Adriatic, run off at nearly right angles; but on the W. it has a lateral ridge, which runs parallel to it for a distance of more than 50 m.; and between it and the principal range extends a longitudinal valley, drained by the Volturmo, and its tributary, the Calore: after these rivers have united, they break through the lateral range, and enter into the plain of Terra di Lavoro. The principal range contains some high summits, as Monte Meta, 7,264 ft., Monte Miletto, 6,720 ft. above the sea. The highest part, however, seems to be the Matera, an enormous mass of chalk rocks, 40 m. in circ., situated at the sources of the Biferno, nearly in 41½° N. lat. On some of its summits snow is stated to be found the whole year.

Near the sources of the river Calore a lateral branch runs off nearly due W., which terminates with a high ridge on the peninsula S. of the Gulf of Naples. It contains the Monte S. Angelo di Castelamare, which rises to the height of 4,688 ft. The W. extremity of this ridge is the Punta della Campanella, opposite the rocky island of Capri. Monte Gargano, a promontory projecting into the Adriatic, is commonly considered as the E. extremity of another lateral ridge of the Apennines, but it is quite unconnected with that range, being separated from its nearest offset by a low plain, many miles in breadth.

This range is traversed by two roads: one runs from the town of Naples to Capua and Presenzano, and passes over the lateral ridge enclosing the valley of the Volturmo to Venafrò and Isernia. Between Isernia and Castel di Sangro it crosses the principal range of the Apennines, and from the last-mentioned place it continues to Sulmona and Chieti. The second road strikes off E. from Naples, and passes over the first range by the pass of Monte Virgine; it then descends into the valley of the river Calore, in which it traverses the towns of Avellino and Ariano. E. of the last-mentioned town is the principal range of the Apennines, over which the road passes to Ponto di Bovino, and then enters the great plain of Puglia (il Tavolieri della Puglia), and continues to Foggia, Bari, &c.

The most easterly ridge, arising from the bifurcation of the Apennines, preserves a considerable elevation as far as the town of Altamura; but E. of that it is continued only by a series of hills, called *Le Murge*, which extend through the whole of the peninsula lying between the Adriatic and the Gulf of Taranto. They are interrupted in several places, and terminate at Capo di Leuca.

The other chain runs directly S., and approaches by degrees the shores of the Mediterranean Sea: on the E. side of the Gulf of Policastro it comes close to it, and continues to run along the sea as far as the Gulf of S. Eufemia, where it suddenly turns to the E., but soon again to the S., in which

direction it skirts the eastern shores of Calabria, between the Gulf of Squillace and Capo Spartivento. In this chain are some elevated summits Monte Pollino (near 40° N. lat.) rises to 7,067 ft. above the sea, and Monte Alto, the highest summit of the great mountain mass, with which the Apennines terminate on the Straits of Messina, is 4,880 ft. above the sea.

In addition to the roads enumerated, the Apennines are crossed at several points by the Italian network of railways, in course of construction, or already completed. (See ITALY.)

Geology.—The N. parts of the Apennines are, in general, composed of sandstone and chalk. The former is known in Toscana by the name of *macigno*, or *pietra serena*, and several high mountains are composed of it: others consist of chalk, and others of *macigno* and chalk together. In the S. ranges the chalk formation predominates, especially on the W. side; on the E. declivity sandstone occurs in a few places. A great portion of the hilly districts, which extend to the W. of the range, and intersect the plains along the Mediterranean, is composed of lava and other volcanic productions. This region extends from Monte Vesuvius on the S., to the river Ombrone, in Tuscany, on the N. Near this river is Monte Amiata and Monte Radicofani (3,060 ft. high), both volcanic mountains. A volcanic country encloses the lakes of Bolsena and Bracciano, and the rocky masses near Viterbo are also of volcanic origin. S. of the Tiber other volcanic rocks of considerable extent and elevation form the mountains near Albano: here Monte Cavo rises to 3,110 ft. above the sea. The country round Rome is overspread with volcanic matter; and the Seven Hills themselves are partly composed of it. A third volcanic region occurs N. of Capua, near Teano, where several heights rise to a considerable elevation, especially Monte St. Croce. Mount Vesuvius and the volcanic country round the town of Naples, constitute the most southerly region of the volcanic tract which skirts the W. side of the Apennines. On the E. side of the Apennines only a single extinct volcano has been found;—it is Monte Vulture, near Melfi, not far from the place where the bifurcation of the range takes place.

The lower declivities of the principal range, and a great part of the lateral ranges, where they do not rise above an elevation of 3,000 ft., are commonly clothed with woods, especially evergreen, oak, and chestnut. The upper parts of the principal range have, in general an arid soil, or are formed of bare rocks, of fantastic forms, and destitute of vegetation, except a few stunted bushes. The whole range is poor in metals, none of them occurring, except iron ore in a few places, and of bad quality. But in many places excellent marble is met with, and in a few it is worked.

The higher parts of the Apennines begin to be covered with snow in October, and they are not entirely free from it before June. It is deserving of remark, that the quantity of rain falling in the countries E. of the range is much less than that with which those on the W. are favoured. In the plain of Puglia the rain amounts only to about 19 inches annually, whilst in that of Terra di Lavoro it is 27 inches.

The countries lying W. of the range are subject to frequent earthquakes, and even some parts of the range itself are visited by them. An earthquake in the country lying about Mount Matese occurred in 1805, by which 3,274 persons lost their lives, and 1,518 were wounded.

APENRADE, a sea-port town of the Duchy of Schleswig, Germany, at the bottom of a bay of the same name on the E. coast, opposite to the N.

end of the island of Alsen; lat. 55° 2' 57" N., long. 9° 26' 38" E. Pop. 4,100 in 1861. It is the cap. of a bailiwick. Its port is shallow, and not very safe; but it has, notwithstanding, a considerable trade in the export of agricultural produce, with distilleries, breweries, and tanneries. Resorted to from June to September for sea-bathing.

APOLDA, a town of the Grand Duchy of Saxe-Weimar, Germany, 9½ m. N.E. Weimar. Pop. 7,782 in 1861. It has a castle, a college, with a bell-foundry, fabrics of cloth and cassimere, and distilleries. Its fairs, four annually, are well attended.

APPENZELL (CANTON OF), a canton in the N.E. part of Switzerland, the 13th in the Confederation. It is completely enclosed within the territory of St. Gall, and is shaped something like a ham, the knuckle end stretching N.E.-ward; area, 153 sq. m. (7·2 Germ.). Pop. 60,624 in 1860, or 859·3 to the sq. m. Its surface consists chiefly of mountain ranges; those of the S. belonging to the higher Alps; the principal of which, the Hoch Sentis, is 8,109 ft. high, but having its summit covered with perpetual snow: most of the others belong to the Lower or Fore-Alps (see SWITZERLAND), which enclose numerous small valleys. It is watered by several rivulets, the chief of which is the Sitter, running through its centre; there are also several small mountain lakes. The prevailing geological formation are calcareous; but pudding-stone and sandy or clay soils are likewise found. Climate cold and variable, but not unhealthy. The mineral riches of the canton consist of peat and coal: salt, chalybeate, and sulphurous springs are met with, some of which, as those of Weissbad near Appenzell, and Waldstatt near Herisan, are used as baths. Its forests, mostly of pine and fir, originally extended over the whole surrounding country; but their extent has been greatly diminished with the increase of population and cultivation; and wild animals, game, fish, &c., have become proportionally rare. Before the Reformation, the whole canton was under one government; but at that epoch, part of the inhab. having embraced the Protestant faith, while the other part continued Catholics, violent disputes were kindled between them, which after much contest, were at length settled by a singular compromise. By an agreement in 1597, the canton was divided into two portions—*Rhodes Interior* and *Rhodes Exterior*. It was stipulated that the former should be appropriated to the Catholics, and the latter to the Protestants. Accordingly the two parties separated, and formed two independent democratical republics, having each a distinct system of government, police, and finance. Exterior or Outer Rhodes, comprises about two-thirds of the whole canton (its N. and W. parts), and has 48,604 inhab., engaged chiefly in manufactures; Inner Rhodes has 2,020 inhab., principally agriculturists. Both republics have but one vote in the Swiss Diet, and send their deputy by turns. Except in a few districts at the N.E. extremity, Appenzell produces neither corn nor wine; but the mountains abound with rich pastures, and cattle-breeding forms the chief occupation of the Inner Rhodes. 15,000 cows and oxen, 600 sheep, and 2,000 goats are fed there annually, it being a practice to purchase them when lean, and sell them again when fattened: cheese, beer, and a liqueur made from a fine kind of black cherry, are the other products of the agricultural districts. The manufactures of the Outer Rhodes are cotton and linen goods, and embroidery: there are about 10,000 looms, by means of which are woven an average of the same number of pieces of cloth 16 Fr. ells in length. Machinery has not been introduced:

weavers work from thirteen to fourteen hours a day. They are dispersed over the country, and combine with their business as manufacturers that of small farmers, being, in each case, assisted by their families.

The houses are distinguished by neatness, convenience, and cleanliness; and being surrounded with gardens and hedges, and thickly scattered over the country, give it somewhat of an English aspect. Weavers generally earn from 2 to 5 florins (*s. 8d. to 9s. 2d.*) per week.

Outer Rhodes has communal and lesser councils, and a grand council, composed of the principal magistrates of each commune, which assembles twice a year, and exercises the executive power. The grand council proposes the laws, and submits them for approval to the *landsgemeinde*, or general assembly of all the males of the republic above sixteen years of age, who meet *armed* on the last Sunday in April, in the open air, and either sanction, or put their veto on the laws proposed. Bankrupts, paupers, &c., are precluded from voting; and penalties are imposed on others who do not attend. The government of the Inner Rhodes is similar, except that the clergy take more part in it, and that none under eighteen years of age have the right of voting in the general assembly. Public schools are universally established; in which, after the rudiments of education, arithmetic, drawing, and singing are taught. Music is very generally cultivated. Savings' banks and poor-houses are established in every parish, and there are numerous orphan asylums and other charitable institutions. The Appenzellers of the Outer Rhodes are of German, those of the Inner Rhodes chiefly of more southern lineage; all, however, are lively, intelligent, and exhibit much mechanical ingenuity, and, with few exceptions, are said to be moral, well-behaved, prudent, and simple in their mode of life.

In the seventh or eighth century, the Frankish kings bestowed this country on the abbots of St. Gall, and it remained subject to them until 1401, when the inhabitants revolted, and, with the assistance of their neighbours of Glarus and Schwytz, achieved their liberty, defeating the Austrians and the forces of the abbot in several engagements. In 1518 it was admitted into the confederation, with the history of which it is subsequently connected.

APPENZELL, a town of Switzerland; cant. Appenzell, cap. Inner Rhodes, and seat of its executive council, in a pleasant valley on the left bank of the Sitter, 9 m. S. St. Gall. Pop. 3,277 in 1860. It is dirty and ill-built; has a Gothic church, built in 1069, which contains various banners taken in former wars by the Appenzellers; two convents; a council house; and two bridges over the Sitter. The annual general assembly of the republic is held here. About 2½ m. S. are the baths of Weissbad.

APPIN, an extensive district, of Scotland, co. Angly (which see).

APPLEBY, a borough, m. town, and par. of England, co. Westmoreland, of which it is the cap. 230 m. NNW. London, 28 m. SSE. Carlisle. Pop. of town, 960, of par. 2,824, in 1861. It stands principally on the left bank of the river, on the slope of a hill, and consists chiefly of one broad street, having the castle at the upper end, and the parish church at the lower. The former, the property of the earls of Thanet, is very ancient, part being either of Saxon or early Norman architecture; but it was mostly rebuilt in 1686. The church was rebuilt in 1655, by Lady Pembroke, a great benefactress of the town, from whom the castle descended to the Thanet family, and has a fine monument to her ladyship. There is a good

market-house erected in 1811; and a town-hall and gaol on the right bank of the river, which is here crossed by an old stone bridge. Appleby has a grammar-school, founded in the reign of Elizabeth, open to all children belonging to the town on payment of a fee of 10s. a year, and having attached to it five scholarships at Queen's College, Oxford, and a right to participate in as many exhibitions in the same college. It has also an almshouse, founded by Lady Pembroke, for thirteen poor widows. Previously to the passing of the Reform Act, when it was disfranchised, Appleby returned two m. to the H. of C.; but they were in reality the nominees of the Thanet and Lonsdale families. The town is without manufactures, but has a good market. It is the seat of the assizes for the county, and of quarter and petty sessions.

APT (an. *Apta Julia*), a town of France, dep. Vaucluse, cap. arrond., on the Caulon, 29 m. ESE. Avignon, lat. 48° 2' 29" N., long. 5° 28' 52" E. Pop. 5,785 in 1861. The town is situated in a spacious valley, surrounded by hills covered with vines and olives. The walls originally constructed by the Romans, and repaired by the Comtes de Provence, still partially exist. The older streets are narrow, crooked, and the houses mean; but the more modern streets are broad and straight, and the houses comparatively good. Principal public building, cathedral of great antiquity, and remarkable for its subterranean chapels. A bridge over the Caulon, of a single arch, is said to be *étonnante par sa hardiesse*. There are establishments for the spinning of cotton and silk, with fabrics of cloth, hosiery, cotton-stuffs, hats, and earthenware; the latter, and the *confitures* made here, being highly esteemed. Several remains of Roman works are found in the town and its vicinity.

APULIA, PUGLIA, or APUGLIA, a portion of S. Italy, lying between 39° 45' and 41° 46' N. lat., and 14° 57' and 18° 34' E. long., comprising the SE. provinces of the former kingdom of Naples; viz. Capitanata, Bari, and Otranto; having NW. the prov. Sannio, NE. the Adriatic, SE. the Ionian Sea, SW. and W. the Gulf of Taranto and the provs. Basilicata and Principata Ultra. Area, 8,092 sq. m. Pop., 1862, 1,315,269, being an increase of 80,422 since the census of 1848. It has, at its S. extremity, the sub-peninsula of Otranto, which forms the heel of the fancied Italian boot; and on its NE. shore the promontory of Gargano. Although it has 440 m. of coast, it is singularly deficient in bays and harbours, and the shores are low; forming in both respects a great contrast to the SW. shores of Naples.

Puglia presents also a striking contrast to Calabria, and the SW. prov. of Naples, in being almost wholly a plain country, and indeed containing by far the most considerable extent of level lands of any tract of the same size S. of the Po. It is divided into *Puglia piana*, and *Puglia montana*; the latter is composed of the Apennine chain, 155 m. in length, which, emerging from Basilicata, runs through the Tera di Bari and Otranto to the extremity of the latter, and of the Garganese, and other branches chiefly in the N. and W. of Capitanata. The mountains of Bari and Otranto are much less elevated than the Apennines in any other region. The plains in the N. are pretty well watered, while those of the central and S. parts are remarkably destitute of water, forming another contrast to the sub-peninsula of Calabria on the opposite side of the Gulf of Taranto. Chief rivers, Candelaro, with its tributary streams, Radiconia, Triolo, Salsola, and Colone; and the Cervaro, both of which run into the Lagune Pantano Salso; the Fortore, Carapella, and

Ofanto, which discharge themselves into the Adriatic, all in the province of Capitanata; the latter river is the only one not dried up during summer. On its banks near Canne, was fought the famous battle of Canne (see CANNÆ). Thence to C. St. Maria di Leuca, a tract 160 m. in length, there are only a few insignificant streams. There are no lakes, but several lagunes of some size, along the shore round and near M. Gargano, as those of Lesina (14 m. long and 3 m. broad), Varano, Pantano Salso, and Salpi; and a few smaller ones near Taranto.

Apulia is divided into the provinces of Capitanata, pop. 312,185; Terra di Bari, pop. 554,402; and Otranto, pop. 447,982. The chief town in Capitanata is Foggia, pop. 34,052; in Terra di Bari, Bari 34,063; Barletta 26,592; Monopoli 17,505; Trani 22,702; Bitonto 23,832; Molfetta 24,958; and Corato 24,857; and in Otranto, Taranto 27,484, Lecce 21,845, and Francavilla 17,609.

Aspect and Agriculture.—Much of the land is uncultivated and abandoned to wandering herds of oxen and buffaloes: in other parts a good deal of corn of different kinds is grown; but maize does not generally flourish, owing to the dryness of the soil. Corn and wool are the chief products of Capitanata, which also produces plenty of wine and oil. In this prov. lands are let in large tracts, and a *casale* or large house established upon each farm, in which the *agente* and labourers reside. There are also extensive *tavoliere* or pasture lands belonging to the crown, capable of feeding as many as 1,200,000 sheep. The centre of Capitanata has a sandy soil, and consists chiefly of pasture. From Foggia to Manfredonia this tract abounds with thistles, asphodels, wild artichokes, and giant-fennel, of the stalks of which latter chair-bottoms and bee-hives are made. On the banks of the Cervaro the mountains are clothed with fine woods, and thickets of flowering shrubs; near Bovino the plain is wooded with low stunted oaks; a forest of oak, manna and other ash, pitch-pine, chestnut, and evergreens (but none of them large) adorns M. Gargano; the country is well cultivated at its foot. Capitanata produces excellent vegetables, wine, and fruit of all sorts, liquorice and tobacco. A great deal of wine is produced in the Terra di Bari; the vines are cut low, but not staked as in France; it is fertile in corn, oil, saffron, almonds, tobacco, mulberry-trees, liquorice, and capers, generally without manure, though in some parts the soil is but indifferent. Its sheep (all of a dark colour) furnish the best wool in Apuglia; goats and swine are kept in large numbers. This prov. yields also, annually, 1,660,000 *moggie* of salt, and 12,000 cwts. of nitre. It yields wine, olives, cotton (good and abundant), wheat sufficient for the inhab.; the arable lands are well cultivated, but there are no artificial pastures, and much of the land lies waste. The chief natural disadvantage it labours under is the want of water, and the rain that falls is therefore carefully preserved in subterranean cisterns.

The hilly parts of Apuglia feed many flocks, and produce an abundance of corn, oil, cotton, and flax; which latter is exported to Venice, Germany, and Switzerland. The shore is generally sandy, uncultivated, and covered with bushes, wild prunes, myrtles, erica, &c., that serve as food for oxen and buffaloes. The whole country, in Bari and Otranto, abounds with aromatic plants; and both the wines, and flesh of some of the animals, as the buffaloes, have an aromatic flavour. Puglia is famous for its deer and other game; the sportsmen run down hares with greyhounds, and pursue the wild-boar with lurchers and mastiffs, riding armed with a lance and brace of pistols. The shores about

Taranto furnish large quantities of shell-fish. The viper, asp, a species of large black snake, and the tarantula infect this part of Italy.

The dyeing of wool is an important branch of industry at Taranto; the internal commerce of Apuglia, of which Foggia is the head-quarter, consists chiefly in the sale of wool, cheese (from sheep's milk), and corn.

The country is quite healthy, the people industrious, peaceable, and handsome. Many of them in various districts are Greeks or Albanians; these being, in the Terra d'Otranto, one-fourth of the whole: they preserve their original customs, dress, and religion, and occupy themselves in cotton-weaving.

This territory was originally called Daunia, Iapygia, Peucetia, and Messapia, and formed part of Magna Græcia. Having fallen under the Roman dominion, Augustus made it the third prov. of Italy, under the name of Apulia. After the fall of the empire in the W., it was occupied successively by Odoacer, Theodoric, and the Greek emperors, till, in the eighth century, it was wrested from the latter by the Arabs; and from them in turn by the Normans, in the 11th century; Robert Guiscard styling himself first Count or Duke of Apuglia. It continued in the possession of his successors till the death of Manfred, at the battle of Benevento, in 1282, when it fell under the dominion of Charles of Anjou, as well as the rest of the Neapolitan territory. Its subsequent history belongs to that of Naples, with which it was incorporated, in 1861, into the kingdom of Italy. (Rampoldi, *Corografia dell' Italia*; Swinburne's *Travels in the Two Sicilies*; and Consular Reports.)

AQUILA, a city of Southern Italy, cap. prov. Abruzzo Ultra, on a hill at the foot of which flows the Alterno, lat. 42° 27' N., long. 13° 28' E. Pop. 15,782 in 1861. The town is surrounded by walls, and ranks as a fortified place of the fourth class; is pretty well built; has a cathedral, and various churches, convents, and hospitals; is the seat of a bishopric, of a civil and criminal court, a chamber of finances, &c. A royal college, established at Sulmona in 1807, was transferred thither in 1816: it was soon after raised to the rank of a lyceum, differing little from a university, and is attended by about 400 pupils. There is also a secondary school, established in 1768, and various other seminaries. A handsome new theatre, built on the model of that of Vicenza, was opened in 1832. Excellent water, conveyed from the Monte San Giuliano, about three miles distant, by an aqueduct, constructed at a great expense, during the flourishing period of the city, is liberally distributed to some fine public fountains, as well as private houses. The town has manufactures of linen and wax; and a considerable trade in saffron raised in its neighbourhood.

Aquila was founded in 1240; and rose in no long time to be one of the richest, most populous, and powerful cities in the kingdom. But the combined influence of misgovernment, pestilence, war, and earthquakes, from the latter of which it suffered severely in 1703 and 1706, have reduced it to its present state of decadence. Latterly, however, it has been improving.

AQUILEIA, a small town of Austrian Italy, near the bottom of the Adriatic, 18 m. SSW. Gorizia, 22 m. WNW. Trieste, lat. 45° 45' 32" N., long. 13° 28' E. Pop. 1,738 in 1858. It is surrounded by a wall and a fosse, and is connected by a canal with the port of Grado, the residence of a few fishermen. This is all that now remains of one of the principal cities of ancient Italy—its chief bulwark on its NE. frontier, and the great emporium of its trade with the nations of Illyria and Pannonia.

Assonine assigned to it the ninth place among the great cities of the empire:—

*Nona inter claras, Aquileia cleberis, urbes,
Italia ad Illyricos objecta colonia montes,
Mamibus et porta celeberrima. — Clara Urbes, 7.*

Aquileia withstood a siege by Maximinus; and in 452 it opposed a vigorous and gallant resistance to Attila; but the barbarian having carried it by assault, razed it to the ground, the destruction being so complete that the succeeding generation could scarcely discover its site. The unhealthiness of its situation has caused the miscarriage of the attempts that have been made for its restoration. In 1751, two archbishoprics were formed out of the patriarchate of Aquileia.

ARABIA, an extensive peninsula, comprising the SW. portion of the Asiatic continent, situated between the rest of Asia and Africa, and between 12° 22' and 83° 45' N. lat., and 32° 50' and 58° 42' E. long. It is bounded on the S. and E. by that part of the Indian Ocean called the Arabian Sea; on the NE. by the Gulfs of Oman and Persia; and on the W. the Arabic Gulf, or Red Sea, forms its boundary from the Straits of Bab-el-Mandeb to the Isthmus of Suez. The N. limit is less clearly defined; the desert in which Arabia terminates in this direction being continuous with that of Syria, and no well-defined line of demarcation existing between them. The most natural boundary on this side appears to be a line drawn from the head of the Persian Gulf to the most westerly point of that of Suez, coinciding very nearly with the 84th parallel of N. lat.; but it is usual to include in this country a considerable part of Irak Arabia, and the desert plains S. and E. of Syria and Palestine; and under this view, the N. boundary follows very nearly the course of the Euphrates. The countries contiguous to Arabia are, on the N. the Asiatic provinces of the Turkish Empire; on the W. Egypt and Abyssinia; on the S. Adel, the most easterly portion of Africa; and on the NE. Persia. On the E., except along the Persian Gulf, the nearest land is Hindostan. Its greatest length from Suez to Cape Ras-al-Hhad is 1,690 m., and its greatest width from the Straits of Bab-el-Mandeb to the town of Keyham on the Euphrates, 1,400 m. Its area, measured on D'Anville's map, is about 1,100,000 sq. m. (Compare D'Anville, Carte d'Asie, with Travels of Ali Bey, ii. p. 9; Map of the Coast of Arabia, same work, ii. p. 27.)

Divisions, Ancient and Modern.—From the earliest period of authentic history, Arabia has been the connecting link between the E. and the W. world. It was the mart whence the Phœnicians drew the supplies of gold and silver, gems and pearls, spices and perfumes, with which they furnished the countries of Europe. And even before this more extensive intercourse existed—before Phœnicia was a nation, or her 'traffickers princes,' the Arabian caravan was seen upon the Nile, and on the borders of Palestine, laden with the most rare and precious products. (Genesis, ch. xxxvii.) That these were only partially, if at all, native products of Arabia, is sufficiently proved; but the W. nations, who received them from Arabia, looked at first no farther for their origin. Exaggerated notions were formed of the beauty of a land whence such precious luxuries were procured, and the term *Eubœanor, Felix*, or the Happy, became connected with its name. But when, in the course of time, the Greeks first, and then the Romans, came to this fancied paradise, they found the soil, wherever they essayed to enter the country, a burning sand or an unfruitful rock. The possibility of an erroneous theory was, however, seldom admitted by ancient inquirers.

Arabia was still believed to be the Happy or Fortunate, but its blissful regions were supposed to be separated from the less favoured portions of the earth by an absolutely sterile zone or belt. All the country E. of Egypt had, indeed, been known, time immemorial, by the common name *Arabia*; and this designation being still retained, the inhospitable tracts on the N. and W. received the distinctive epithet of *Ἐρημὴ, Deserta*, or the Desert. (Herodotus, Thalia, §§ 107-113; Diodorus Siculus, lib. ii. pp. 159-167, lib. iii. pp. 211-216; Strabo, lib. xvi. pp. 767-781; Pliny, Nat. Hist., lib. v. § 11.)

Ptolemy subsequently added a third division to Arabia, including the country between the Red and Dead Seas, and between Palestine and the Euphrates: in other words, he gave to his Arabia the N. limit which, since his time, it has generally been considered as retaining. To this new district he gave the name of *Arabia Petraea*, from *Petra*, a town on the lesser Jordan, south of the Dead Sea, and the capital of the Nabatheans. (See *PETRA*.) This division of the country by the Greco-Roman geographers was universally adopted, not only by their contemporaries, but by all the western nations in the middle ages. On the revival of learning, the great work of Ptolemy was taken as the text-book of geography, and his arrangements were universally adopted. Even Gibbon was deceived by them. 'It is singular enough,' he remarks, 'that a country whose language and inhabitants have ever been the same, should scarcely retain a vestige of its old geography.' (Dec. and Fall, v. chap. 50.) But he forgot that this 'old geography' was the invention of foreign nations, possessing neither political power nor influence over the wandering Arab tribes, in almost total ignorance of the settled portion of the Arab people, and, consequently, without the means of making their divisions known among the natives, still less of causing them to be adopted. The fact remarked by Gibbon of the identity of the people and language in ancient and modern times, leads, indeed, irresistibly to the conclusion that an 'old geography,' of which the natives retain neither vestige nor recollection, never had an existence among them, and that the ancient *Arabic* divisions of this country are as identical as the people and the language with those existing in the present day. These native divisions are the following:—

1. *Bar-el-tour-Sinai* (the Desert of Mount Sinai), nearly identical with the *Arabia Petraea* of Ptolemy. It comprises the small peninsula between the Gulfs of Suez and Akabah, and the country northward as far as the Dead Sea. This is the region so celebrated in Sacred History as the scene of the wanderings of the Jewish people; but, though it may be gathered from the Mosaic account that it was then the residence of several warlike nations, it is, at present, nearly uninhabited. (Niebuhr, par. ii. p. 845.)

2. *El-Hedjaz*, or the *Land of Pilgrimage*, occupies a considerable portion of the coast of the Red Sea. Its boundaries are E. *Nedjed*, W. the *Red Sea*, S. *Yemen*, and N. *Bar-el-tour-Sinai* and *Nedjed*. This district acknowledges a sort of doubtful authority in the grand Signior as protector of the holy cities (Mecca and Medina); but those cities, and the whole southern part of Hedjaz, called *Beled-el-Harem* (Holy or Forbidden Land) were, till within these few years, under the government of the sheriff of Mecca. The sheriff's power, has, however, of late been much shaken; first by the Wahabees, a fanatical sect of Nedjed, and more recently by Mehemet Ali, Pacha of Egypt. (Niebuhr, par. ii. p. 302; Ali Bey, ii. pp.

29, *et seq.*; Burckhardt's Travels in Arabia, *passim.*)

8. *Nedjed* constitutes the central part of the peninsula. It is the largest of all the divisions. It is bounded N. by the Syrian Desert, E. by *Lachsa*, S. by *Yemen*, and W. by *Hedjaz*. (Niebuhr, par. ii. p. 296; Burckhardt, vol. ii. p. 896, *et seq.*)

4. *El-Hassa-Lachsa*, otherwise, *Lachsa*, *Hadjar*, or *Bahrain*, lies upon the Persian Gulf. Its boundaries are, towards the N. the country of *Irak Arabi*, W. *Nedjed*, S. *Oman*, and E. the Persian Gulf. (Niebuhr, par. ii. p. 298.)

5. *Oman* is bounded N. by the Persian Gulf and *Lachsa*, E. by the Gulf of *Oman*, W. and S. by vast sandy deserts (parts of *Nedjed* and *Hadramaut*), in the midst of which it seems to rise like a little knot of mountains out of an extensive sea. (Niebuhr, par. ii. p. 255.)

6. *Hadramaut* forms the SE. division of Arabia, and is bounded N. and NE. by the Deserts of *Nedjed* and *Oman*, S. and SE. by the Gulf of *Aden* and the Arabian Sea, and W. by *Yemen*. (Niebuhr, par. ii. p. 245.)

7. *Yemen*, the southern part of the peninsula, has the Red Sea on its W. side, the Straits of *Bab-el-Mandeb* and the Gulf of *Aden* on the S., *Hadramaut* on the E., and *Nedjed* and *Hedjaz* N. (Niebuhr, par. ii. p. 160.)

Yemen and *Hadramaut* point out the situation, if not the extent, of the *Arabia Felix* of Strabo and Ptolemy. The inhabitants regard themselves as the chief of all the Arabian people, calling their country *Bellad-el-Um* i. *Bellad-ed-Din*, 'The birthplace of the sciences and of religion.' (Niebuhr, par. ii. p. 247.) But the *Arabia Felix* of Greek geography seems to have extended much further N., comprising the whole of *Hedjaz* and *Oman*, together with the greater part of *Lachsa*, and a very considerable portion of *Nedjed*. (Strabo, lib. xvi. cap. 8, p. 765; Ptolemy, lib. vi. cap. 7, p. 112.) The *Arabia Deserta* included the N. parts of *Nedjed* and *Lachsa*. In Ptolemy's map this district is separated from the former by an imaginary range of mountains, running from the Persian Gulf to another range, equally imaginary, supposed to form the boundary between *Arabia Felix* and *Arabia Petraea*. The position of this last-mentioned province has been previously pointed out.

Physical Features of the Country, Mountains, and Plains.—The name (*Nedjed*) of the central and largest division of Arabia signifies high or elevated ground; and the whole peninsula, as far as at present explored, consists of an elevated table-land, with a general inclination towards the N. and E. 'Taken in the aggregate' says Dr. Wallin, 'Nejd [Nedjed] presents an undulating and rocky surface, intersected on the W. by offshoots of the hilly ranges which run from the western chains, and in other places varied by the occurrence of broken groups, and of isolated hills and peaks, apparently unconnected with each other.' It is surrounded by a belt of low land, varying in width from one or two days' journey to a single mile or less. (Niebuhr, par. ii. pp. 160, 296, &c.; Burckhardt, ii. p. 897, *et seq.*) This flat belt is called *Gaur* or *Tehama*, Arabic terms for a plain country; and the W. part of *Yemen*, on the Red Sea, has received the latter name as a distinctive appellation. A range of mountains runs S. from the borders of the Dead Sea to *Yemen*; the face of which is much more steep and precipitous towards the W. than the E.; so that the great plain which commences immediately to the E. of these mountains is very considerably raised above the level of the sea. (Burckhardt, ii. p. 146.) The hills of *Oman* seem to form the E. shoulder

of this table-land, and the plains of *Lachsa* the termination of its inclination towards the Persian Gulf. (Niebuhr, ii. pp. 255, 298.) This high plain is diversified with several considerable elevations, which cross its surface in every direction, shooting off like branches or spurs from the principal chain. The main chain, supporting this table-land on the W., increases in elevation as it extends towards the S.; and, although it has not been explored in the SE. part of the peninsula, there can be little doubt that the same chain, after following the direction of the Red Sea to *Yemen* and *Hadramaut*, is continued in a line, parallel to the Indian Ocean, as far as *Oman*. Lord Valentia describes that part of the E. coast of Arabia, which he saw in his voyage from India to the Red Sea, as a sandy beach with a chain of mountains in the distance (Voyages and Travels, ii. p. 12); and Niebuhr has no doubt that the hills of *Oman* form the N. termination of this chain (par. ii. p. 255). The elevations of the land are rather in masses than in peaks, and the few great eminences of the latter kind, noticed by travellers, are referred to in terms which seem to imply that they are regarded as singularities. Mounts *Horeb* and *Sinai* are, out of all comparison, the most celebrated in the world: they are connected with some of the most important events in sacred history; and are regarded with feelings of religious awe by Mohammedans as well as by Jews and Christians. The *Sinai* group is the last considerable elevation towards the NW. of the mountains which support the table-land of the interior. This group fills the peninsula between the Gulfs of *Suez* and *Akabah*. Mount *Arafat*, an eminence extremely sacred in Mohammedan estimation, at a short distance from *Mecca*, rises from the plain country of the table-land to an elevation of 150 or 200 ft. It forms the centre of a natural solitude, being situated in a plain about three quarters of a league in diameter, and surrounded by barren mountains. The composition of the Arabian mountains, towards the N. and W., is limestone rock, with granite towards the summits; but in the higher parts of the country the bare granite rises uncovered from its very base. (See Burckhardt, Ali Bey, and Niebuhr, *passim.*)

The *Gaur*, or *Tehama*, from its regular inclination towards the sea, and the nature of its soil—sand with saline incrustations (Niebuhr, par. ii. p. 151; Lord Valentia, vol. ii. p. 859)—seems to have been under water at a comparatively recent period. At *Mocha* the soil for 28 ft. in depth is wholly composed of marine productions; and at *Okelia*, close to the Straits of *Bab-el-Mandeb*, where anciently there was a harbour in which a fleet could lie, there is not, at present, much more than a foot of water. (Lord Valentia, vol. ii. p. 861.) The town of *Musa*, formerly on the coast, is now several miles inland. This fact was remarked even in Pliny's time. 'Nowhere,' says he, 'has the earth gained more, nor in so short a time, from the water.' (Nat. Hist., lib. vi. § 27.)

Rivers and Lakes.—There are no rivers, in the strict acceptance of the term, in Arabia. All streams of running water known to exist in this country have more or less the character of occasional torrents. Niebuhr remarks it as a singularity, that the *Massora* and another small stream in *Oman* continued to run throughout the year; and he states, that in the *Tehama* of *Yemen* there are no rivers that retain their water during the entire summer. (Des de l'Ar., par. ii. pp. 255, 161, &c.) The few perennial streams are all reduced to insignificance during the dry season; but, under the influence of the periodical rains, these and the others often swell to an immense size, and some-

times make new channels for themselves, changing, in this way, the appearance of the coast, and leading to contradictory statements as to the number and embouchures of the different streams. (Valentia, ii. p. 260.)

The arid sands of the Tehama, unfavourable to the formation of rivers, are, of course, equally hostile to the accumulation of water in lakes. In fact, the dryness of the Arabian soil is proverbial.

Climate.—The Tropic of Cancer divides Arabia into two not very unequal parts. It lies, therefore, partly in the torrid, and partly in the S. part of the N. temperate zone; but so many modifying circumstances exert an influence over its climate, that the mere latitude of its several parts is, perhaps, the least important element in determining the temperature, humidity, and salubrity of its atmosphere. In general, the climate is very similar to that of N. Africa. Lying under the tropic, it has, of course, its succession of dry and rainy seasons; and on the mountains of Yemen the showers regularly fall from the middle of June till the end of September. During the early part of the season the rains are most abundant, and at this time the sky is sometimes, but very rarely, covered by clouds for twenty-four hours together. During the dry season a cloud is scarcely ever seen. In Oman the rainy season begins in November, and continues till the middle of February. In the plain country on the coast, and in the Tehama of Yemen (though so close to the mountainous regions of regular showers), a whole year frequently passes without a drop of rain. (Niebuhr, par. i. pp. 34, *et seq.*) In this respect is found striking physical resemblance between Africa and Arabia. In the latter, as in the former, the parched plains are denied the refreshment of falling showers, and owe what share of fertility they possess to the inundations consequent upon the saturation of the mountains.

The temperature of Arabia, like that of other countries, differs widely, according to the elevation of the surface, the nature of the soil, and the neighbourhood of the ocean. In general, the mountains of the S. Yemen and Hadramaut are the most habitable, and even the coolest parts of the peninsula; but the heat of the Tehama is excessive; and great extremes of temperature are experienced within very small distances. At Mocha, on the Red Sea, the thermometer rises in summer to 98° Fahr.; while at Saana, in the mountains, it never exceeds 85°, and in this district freezing winter nights are not unfrequent. The inhabitants of Yemen live, consequently, under several different climates, and very different species of animals and vegetables flourish within its limits. (Niebuhr, par. i. p. 4.) From the borders of Hedjaz to the banks of the Euphrates the country is a vast plain, and wholly destitute of rivers or permanent springs. The soil is one mass of moving sand, and the dreary monotony of the scene is broken only by the appearance of a few thorny shrubs, which, taking vigorous root in the sand, supply the patient camel with the only food which he can find in these deserts. (Yoseph-el-Milky, in Zach's Correspondence, No. 18.) This country, with the Desert of Syria, seems to have formed the *Arabia Deserta* of Strabo and Ptolemy.

Another plain of the same kind, and most probably even more extensive, called the *Desert of Akuf*, lies between Yemen and Hadramaut, on the S. and W., and between Nedjed and Oman, on the N. and E. (Niebuhr, par. ii., pp. 245-255.) These vast sandy deserts increase very greatly the heat of the atmosphere in their neighbourhood. The wind blowing over them, about the summer solstice, becomes so dry that paper and

parchment exposed to its influence scorch and crack as though placed in the mouth of an oven, and life, both animal and vegetable, perishes in the noxious blast. (Ali Bey, vol. ii. p. 46.) This is the wind known, in different and often very distant countries, by the names of the Simoom, Samiel, Sirocco, and Sorana; and which is always generated in every tropical country having extensive sandy deserts. Its grand seat is the vast Desert of Sahara, in Africa; and next to it, perhaps, the deserts now mentioned. It comes from a different quarter in different parts of the peninsula, according to their position with respect to these deserts. Thus, at Mecca, the Simoom comes from the E.; in the neighbourhood of the Persian Gulf and the Euphrates, from the W.; in Yemen and Hadramaut, from the N. and NE. The chain of hills seems to shelter the Tehama of the Hedjaz from the influence of the Simoom from the Arabian Desert, as the hottest wind known in this district comes from the African deserts across the Red Sea, and is, consequently, very considerably cooled and mitigated in its violence.

It is only, however, during the intense summer heats that the Simoom is dreaded; and such is the general purity of the atmosphere, owing to the few exhalations from the dry soil, that both man and beast in Arabia are aware of the approach of the poisonous blast from the sulphurous odour by which it is preceded. It is said, also, that the point of the heavens from which the Simoom is approaching is always marked by a peculiar colouring, easily distinguishable by an Arab eye. Thus forewarned, the Arab throws himself upon the ground, and the beasts hold down their heads; for it is found that this terrific blast has little or no power near the earth, perhaps because, blowing in a horizontal direction, it is broken by the inequalities of the ground, and also, perhaps, because the few slight exhalations forced from the arid soil by the extreme heat have power to counteract its virulence. Those who are rash enough to face it are suddenly suffocated; and in the deserts, where the Simoom blows long and strongly, whole caravans have been buried beneath the burning sands, which then rise in waves as high and strong as those of a stormy ocean. (Niebuhr, par. i. pp. 7, 8.)

Natural Productions.—The differences of soil and climate occasion much variety in the species and amount of the natural products of Arabia. Nothing can, perhaps, be more strongly contrasted than the vivid descriptions of the country by ancient and oriental writers, and the cold realities exhibited to the traveller or voyager who approaches its confines. Even on nearing the southern shore, the Arabia Felix, or terrestrial paradise of the ancients, the eye looks in vain for the beauty; nor is the smell gratified by the 'Sabeian odours' which have been so vividly, but erroneously, described. A wide sandy beach, bounded in the distance by a range of mountains, dreary and unproductive, without a patch of verdure to relieve the eye, or a running stream to slake the thirst, or break the dull monotony of the view, constitutes the southern coast of Yemen. (Valentia, ii. p. 12.)

The fertile spots, however, like the oases of the African deserts, are so luxuriant and beautiful, as in some measure to warrant the hyperbolic praises bestowed on the peninsula. In consequence, too, of the various circumstances of elevation, aspect, temperature, and moisture, there is no country whose productions are more numerous and varied.

The sandy plains of the centre produce the same plants as N. Africa, — the mesanbryanthemum, aloë, euphorbium, stapela, and salsola; plants which answer a wise purpose in these wastes, by allevia-

ting the thirst of the camel, during the painful journeys of the caravans.

The sea-coast, consisting for the most part of arid sands, produces, in general, the same plants as the central deserts; but wherever the Tehama is watered by rivulets descending from the mountains, or wherever the soil is subjected to occasional inundations, a very different scene is presented. Under these circumstances, a vegetation, luxuriant and diversified, is produced, the effect of which is the more striking, from the desolation with which it is surrounded. The valleys, too, in the mountains, exposed to the influence of the regular rains, and consequently abounding in rivulets, are the seats of an abundant vegetation. In such districts, the tamarind, cotton tree, sugar cane, banana, nutmeg, betel, and every variety of melons and pumpkins, are *indigenous*; at all events they have grown there from the remotest antiquity (Strabo, lib. xvi. 16, cap. 8, pp. 704, *et seq.*; Pliny, Nat. Hist. lib. xii. cap. 8, p. 862; Ib. lib. xii. cap. 10, p. 863; Ib. lib. xix. cap. i. p. 4), and continue to flourish in greater luxuriance than in any other part of the world, except in the similar soil and under the similar climate of N. Africa. Arabia produces several kinds of hard wood, of which the *agallochum* seems to be the same with the sandal wood of the East India Islands; and it may be regarded as the native home of the date tree, the cocoa, and the fan-leaved palm. Of other trees, there are the fig, orange, plantain, almond, apricot, *acacia vera* (producing the gum Arabic), quince, and vine. Among shrubs, the sensitive plant, castor-oil plant, and senna (both used in medicine); the globe amaranth, white lily, and *pancratium* (all distinguished for their fragrance); the aloe, *stryax*, and *sesamum* are very abundant. But, notwithstanding this variety of wood, although there are some groves or thickets on the mountain side, Arabia possesses no forest, properly so called.

Of Arab trees, the most worthy of notice are the coffee tree, and the tree producing the balm of Mecca, called, by the natives, *Abu Scham* (that is, the *odoriferous tree*). Both are natives of Yemen, the coffee plantations being found chiefly on the W. slopes of the mountains, in that division of the peninsula. It is said that the Arabs have always prohibited the exportation of the coffee plant; but it is a well known fact that it was first introduced into the W. Indies from Arabia. The coffee of Yemen still, however, preserves its superiority, and fetches the highest price in the European markets. The balm of Mecca is the most fragrant and valuable of all the gum resins, but it is never met with pure out of Arabia, and there scarcely beyond the confines of Yemen. The merchants of Mocha convey it in great quantities to Medina, whence it is never exported for the purposes of external commerce till it has been considerably adulterated. (Niebuhr, par. i. p. 127.)

Among the natural productions is the singular substance called *Manna*, produced from a little thorny bush, which seems to be abundant in all the deserts and their neighbourhood, and exactly answers the description in Exodus xvi. and Numbers xi.

Wherever water is found, or can be procured, the labour of the Arabian agriculturist is well repaid. Maize, wheat, dhourrah, barley, and millet cover the mountain sides of Yemen and other fertile parts. Indigo, tobacco, *Lars*, a plant yielding a yellow dye; *Fwar*, an herb which produces a red colour; together with many species of garden fruits and vegetables, are cultivated; but, in order to insure success in the cultivation beyond the districts watered by the scanty rivulets and torrents, much labour is required. It is true that the

agricultural implements are of a very simple and primitive construction, but it is not in the use of these that the great labour of Arabian agriculture exists. Channels and dykes have to be constructed to conduct the water to spots where none flows naturally, and to retain it there that it may fertilise them. Great reservoirs are formed, in which the abundant rains of the wet season are collected for future use. The coffee grounds and gardens on the mountain sides are supported by *walls*, to make their surface horizontal, and so prevent the escape of the moisture. Wells are dug at immense depths; and, in short, since it is upon the amount of irrigation that the productiveness of the soil depends, it is to the collection and just distribution of water that the cares of the cultivator are principally directed; and the nature of the Arabian climate and hydrography renders these cares in the highest degree laborious. (Niebuhr, par. i. pp. 134—142.)

The fame of Arabia as the land of incense and perfumes is of very old date. But it has been historically proved that the frankincense, myrrh, and similar products with which it supplied the ancient world, were not all of its own growth, but were principally brought to its ports from Africa and various E. countries. (Niebuhr, par. i. p. 126; Valentia, ii. p. 12.)

The camel is to the Arabian what the reindeer is to the Laplander. It has been justly called the 'Ship of the Desert'; and without it the Arab could never cross the seas of sand that fence his country. There are two species of this useful animal; that used in Arabia and N. Africa has only one hump, while that found in Persia and Bokhara has two. The latter is frequently called the Bactrian camel, and the Arabian species is sometimes called dromedary. This last name is, however, improperly applied, the Greek term *δρομας* (swift), being, most probably, unknown to the Arabians, while by the Greeks themselves it was applied to only one variety of the Arabian camel, distinguished by its greater speed from those best adapted to carrying burdens. (Diodorus Siculus, lib. iii. p. 126.) Arabia is generally regarded as the native country of the horse; and there are, perhaps, no breeds to be compared with those trained by the Bedouins of the desert. The horses are of two kinds: the one called *Kadeschi*, that is, of an unknown race, are used for the purposes of labour, reside in the towns, and are not more esteemed than the horses of Europe. But the true Arab steed, the horse of the desert, is said to be descended from the breed of Solomon: this kind is called *Kochlani*, or horses of an ascertained race; and it is pretended that their genealogy has been preserved in the country for 2,000 years. (Niebuhr, par. i. pp. 142—144.) Horses are, however, by no means so numerous as has been supposed. In the settled districts the most common beasts of burden are oxen and camels (Niebuhr, *passim*); and among the Bedouins the mare is rather a mark of distinction than a substantive part of her master's wealth. In many tribes (and those among the richest) not more than one mare to six or seven tents can be found; in some of the W. districts there are many encampments without a single horse or mare among them; and when, in 1815, the S. tribes united against Mehemet Ali, out of an army of 25,000 men not more than 500 horsemen could be mustered. The Arab tribes richest in horses live without the limits of the peninsula, in the fertile plains of Mesopotamia, and in the plain country of Syria. Burckhardt thinks that the number of horses in Arabia does not exceed 50,000. (Notes on Bedouins, pp. 40, 115, *et seq.* 246—249.)

The great cause of this scarcity is undoubtedly the difficulty of providing food for the animal, especially in the S. districts; but another cause, depending probably upon the first, is, that the Arabs almost uniformly ride their mares, and sell the horses to the town's-people. The horses that they reserve are merely for the purpose of breeding, and a gelding is rarely if ever seen in the desert. Although the Bedouin parts readily with the horses of his famous *Kochlani* breed, he rarely disposes of the mares until they become old, or are from some accident unfit for war; and even then he contracts with the buyer to receive the first filly foaled of any mare that he may sell, or to receive back the mare, the buyer retaining the filly. Sometimes the first two, three, or even four fillies are thus reserved to the seller; and this, in Arab phraseology, is called selling a half, a third, or a fourth of the mare's belly. It is very rarely, indeed, that a Bedouin will part with a *Kochlani* mare except under such reservation of right in her future offspring. (Burckhardt's Notes on the Bedouins, pp. 117, 118, &c.) An Arab will sometimes take his mare a journey of several days, in order that she may breed by some celebrated horse; but, in general, the Bedouins are by no means so particular in this respect as Europeans, and consider the good qualities of the colt to depend rather upon the dam than the sire. They never, however, willingly mix the *Kochlani* with the *Kadeschi* breed; and if such mixture take place by accident, the colt is reckoned of the inferior race. In the towns, *Kadeschi* mares are coupled with *Kochlani* horses, but in this case, also, the offspring is accounted *Kadeschi*. (Niebuhr, par. i. p. 144.)

Kochlani horses are mostly small, seldom above fourteen hands high, of a delicate but extremely graceful form, and have all some characteristic beauty which distinguishes their breed from every other. This breed is subdivided into almost innumerable families; for every mare distinguished for speed or beauty may give rise to a new breed called after her. They all, however, belong to five great divisions, named after the favourite mares of Mohammed, *Tameye*, *Manekeye*, *Moheyl*, *Taklawye*, and *Duylfe*.

A colt is not mounted till it is two years old, but from this time the saddle is rarely off its back; it becomes the intimate companion of its master, sharing all his comforts (such as they are), and also all his privations. Pasture in the rainy season—barley and wheat when the plains are scorched by the tropical sun—date-paste, and dried clover when grain is scarce—form the variable diet of the Arab horse, in different districts and seasons. As long, too, as its master's camels can supply milk, it receives its share, and the Bedouin most commonly gives the fragments of his own meal to the mare on which he rides. It is, moreover, a common practice, more especially in Nedsjed, to give horses' flesh, both raw and cooked, particularly before the commencement of a fatiguing journey. Like their masters, the Arab horses live all the year in the open air. With little grooming and attention to their health, they are seldom ill. Being constantly in the society of their masters, they become gentle, docile, and intelligent in a high degree; they are ridden without bits—generally, too, without stirrups; and instances of vice or ill-temper are almost unknown among them. (Niebuhr, par. i. pp. 141-143; Burckhardt, Notes on Bedouins, pp. 115-122, 246-256.)

The other domestic animals are oxen, generally of a humped kind, like those of Syria; sheep, one variety of which has extremely thick and broad tails; goats and asses, of which last there are two varieties—one not differing from those of Europe,

the other large, courageous, and more desirable for a journey than even the horse. From these asses a breed of very valuable mules is procured. The buffalo, though common in Egypt, Syria, and on the banks of the Euphrates and Tigris, that is, all round the confines of Arabia, is not found within its limits; at least Niebuhr did not meet with it, and no other writer mentions the animal, except in one or two instances, when the humped Syrian ox seems to have been mistaken for the buffalo. The latter requires a moist pasture and a plentiful supply of water. Hence it is found on the banks of the Nile and the Orontes, though in the close neighbourhood of parched deserts; but the want of water in Arabia clearly renders that country unfit for its location.

Among the wild animals are the jackal, hyæna, several kinds of asses, the jerboa, wolf, fox, boar, and panther. Besides these, there are several kinds of antelopes; the goat runs wild among the mountains, and wild oxen and asses are to be met with in the plains. Domestic poultry is very plentiful in all the fertile districts, and the plains are filled with partridges, the woods with guinea fowl, and the mountain sides with pheasants. But the most celebrated bird is one of the thrush kind, called by the natives *Samar-mog*, which comes in flocks every year from Persia, and commits great devastation among the flights of locusts. For this important service it is held in a degree of respect, amounting almost to adoration. The ostrich wanders in the sandy deserts, and is called by the Arabs *Thar-edemjmael*, that is, camel-bird. It is certainly a remarkable circumstance that in a country lying on both sides the tropic there should be no great abundance of insects; yet this appears to be the case. Ali Bey, speaking of Hedjaz, says, 'There are few flies, and no gnats or other insects.' (Travels, ii. pp. 45, 118.) The locust is, however, one of the scourges of Arabia, though even this pest seems to be less destructive here than in the neighbouring countries of Syria and Persia. The esculent locust is sold in the markets, and is esteemed a great delicacy. (Bochart, Hierozoicon, par. i. lib. iv. cap. 6, p. 46.) These destructive ravagers come to Arabia from different quarters: a SW. wind brings them from the Libyan Desert to the shores of Yemen and Hedjaz; a NW wind hurls them upon Oman and Lachas, from Persia and Mesopotamia; and a wind from the NE. frequently overwhelms Nedsjed with this plague, from Syria. They seem, however, to be confined to their several localities, perhaps from inability to pass the interior deserts; for the W. flight, as it may be called, or that from the African shores, never passes the mountains of Yemen, and commonly retraces its route on the day following its first appearance. No part of the year seems to be peculiarly exposed to or exempted from this plague. Niebuhr noticed locust flights in the months of January, May, June, July, November, and December. In one of these, the Red Sea between Mocha and the opposite coast of Africa was covered with their dead bodies.

Of the reptile tribes, land and sea turtles are very numerous; there are also several species of serpents, one of which, very small, and covered with white blotches, is extremely venomous, its bite being instantly mortal. The guaril, a large lizard, is said by Bochart, on the authority of Karwyni and Abdollatif, two native writers, to be equal in size and strength to the crocodile. (Hierozoicon, par. i. lib. iv. cap. 3, p. 1070.) All the coasts abound in fish; reefs of coral and madrepore extend along the shores of the Red Sea, and the pearl oyster is abundant in the Persian Gulf. (Niebuhr, par. i. pp. 142-159.)

Minerals are scarce; but this may proceed from a want of industry or skill in working mines. The mountains of an old formation, are precisely those in which the precious metals are found, and the unanimous voice of antiquity proclaims this country as the land of gold and gems, as well as of incense and perfumes. Niebuhr affirms, however, that no gold is found, and that only a small portion of silver is found mixed with lead in the mountains of Oman. There are some iron mines in the N. of Yemen, but the metal they yield is brittle and of little worth; and with regard to gems, it is now well known that the agate called *Mocha stone* and the *Arabian cornelian* come from India; and there is nothing to contradict the presumption that the other gems for which Arabia was formerly distinguished, were derived from the same source. The onyx, however, is found in Yemen, and an inferior emerald. The other minerals are basalt, blue alabaster, several kinds of spars and selenite. (Niebuhr, par. i. pp. 128-125.)

Population, Manners, and Customs of Arabia.—The native Arab has always been an object of interest and curiosity to the rest of the world. Descended in all probability from the same stock with the Jews, he has preserved his race almost as unmixed, and traces up his genealogy to Abraham through Ishmael, with the same pride as his con-generator looks up to the same patriarch through his lawful but younger offspring Isaac. Through all the centuries which have passed over his head, he has preserved the character given to his infant ancestor in the wilderness. The desert has continued his home; he has been a man of war from his youth—'his hand against every man, and every man's hand against his.'

Though the various eastern traditions on the subject are too numerous and too involved to be here stated, it seems pretty certain that the Arabs of the towns and those of the desert owed their origin to different ancestors—that the settled population on the coasts are descended from a more ancient, if not an aboriginal race, while the wild horseman and shepherd of the waste is the descendant of the discarded son of Abraham. Between these a marked and striking difference has existed throughout the historic period; and not only is this the case, but each class seems to have retained pretty nearly the same distinguishing features which marked it in the earliest times. The caravans from Mocha and Sanaa still convey the produce of the South to Turkey, Egypt, Syria, and Persia (Niebuhr, par. i. p. 126) as they did 2,000 years ago (Pliny, Nat. Hist. lib. vi. cap. 28), though the Arab merchant be not so important a character in this commercial age, as when it could be said of him that 'he must, of necessity, be exceedingly rich; for with him the Roman and the Parthian leave large sums of gold and silver for the products of his woods and seas, which he sells to them without buying anything in return.' (Pliny, l. vi. § 28.) The Bedouins, too, or *Scenites*, are described by Pliny as living in the *black hair-cloth* tents, under which they shelter themselves at present; and he expresses his astonishment at the fact, that, being so numerous a race, the half of them, at least, should live by plunder. (Nat. Hist. l. vi. § 22.)

Though the younger race, the Bedouins account themselves the more noble; and the Arab is prouder of his rank than the native of any other country in the world. They have no titles of nobility, excepting such as refer to religious or political offices. The Bedouin has no idea of rank depending upon letters patent of a caliph or sultan; all men descended from the same ancestor are, in his estimation, equal in rank; and hence

the preservation of their genealogies is a matter of extreme care. Among their great houses, those descended from the Prophet hold the first rank; then those whose ancestors diverged the latest from the common stock; the lowest place being seemingly assigned to those who trace their genealogy to Aoc, the second son of Adnam, thus diverging from the Prophet's stock in the first accredited generation. (Sale, Introd. Koran, p. 9; Niebuhr, par. i. pp. 9, 10.)

According to Niebuhr, the Bedouins are now the only true Arabs,—the inhabitants of the cities and coasts being, in consequence of their commerce, so mixed with strangers, that they have lost much of their ancient manners and customs; whereas, the Bedouins (*les vrais Arabes*) have always looked more to their liberties than their ease or riches, and continue to live in separate tribes, under tents, preserving, in the present day, the same manners and customs which distinguished their forefathers in the most remote times. (Par. ii. p. 327.) Niebuhr enumerates above a hundred Bedouin tribes, each under its own particular sheikh or sheriff; these are not, however, all found within the limits of the peninsula, but extend over Syria, the plain country between the Euphrates and the Tigris, and even from the left bank of the latter river into Persia. There are, however, two classes of Bedouins; the *Ahl-el-Abaar* (true, noble Arabs) who live entirely by pasturage and plunder, and those tribes, who, finding any portion of the country fitted for agriculture, bestow their labour on the ground, an occupation which the true Bedouin considers far beneath him. This second class of Arabs is called *Madan*, and it seems to hold an intermediate place between the Noble Shepherd (*Ahl-el-Abaar*) and the peasant of other countries.

The Bedouin tribes who inhabit the open country between the Euphrates and Tigris, extend as far north as Orfa and Diarbekr. They are under the nominal sovereignty of the Turkish pachas of Bagdad, Moussoul, and Orfa; their sheikhs frequently receive the *Tokh*, or horse's tail, from the grand signor; but it appears that the bestowal, and the acceptance of this mark of dignity is almost the only assertion on the one hand, or acknowledgment on the other, of supremacy or subordination that is ever attempted or conceded; except in occasional instances, when direct force has deposed a sheikh, and appointed another in his place, without, in the slightest degree, changing the relative position of the tribe and its so-called sovereign pacha.

The Bedouins of the Syrian desert are rather more closely connected with the pachas of Syria, inasmuch as the necessity of protecting the trade between Aleppo and Damascus on the W., and Bagdad and Balsa on the E., has caused the employment of the various Arab tribes as a kind of irregular soldiery; and the bestowal of the rank of emir on the reigning sheikh of the most powerful tribe for the time being. This emir sheikh (in consideration of his rank) is obliged to conduct the caravans in safety through the desert, and to hold in check any or all of the other tribes. 'We may easily judge,' says Niebuhr (Des. de l'Ar. par. ii. p. 389), 'that this is not done for nothing.' In fact; if it happen, as it not unfrequently does, that the pacha is unable to fulfil his engagements with the sheikh, he is compelled to cede to him such towns and villages as border on his encampment; and thus to make him, in effect, the master of the settled, as well as of the open country. The tribe of Anese is the most considerable of all the Syrian Arabs. It has frequently been at war with the pachas of Damascus;

and, at such times, the departure of the caravans from that city for Bagdad has been delayed; and the reason, openly assigned, that the Arabs of Syria were discontented with the pacha.

The Bedouins, within the peninsula, do not acknowledge a sovereignty of any kind, except in their native chiefs. They are very numerous in Nedsjed, and are scattered among the settled population in all the other provinces. The most powerful tribe of any in Arabia is, perhaps, that of Beni-Khaled; it inhabits that part of the desert which borders on the Persian Gulf, and has under its dominion not only many smaller tribes, but also most of the towns and villages of Lachsa. The reigning sheikh passes a portion of each year in these towns; but by far the greater part is spent in the open country, under tents.

The form of government among the Bedouins is strictly patriarchal, and their manner of living is that of the pastoral ages recorded in the Bible. The head of a tribe receives a submission from his subjects, similar to that which a father receives from his family; and, in the East, that submission is unbounded. There is, however, a check upon the abuse of power in the sovereign sheikh, which, though indirect, is by no means weak. Since every tribe consists of many branches, the various heads of these sub-tribes, as they may be called, form a powerful restraint upon the chief; and should he become unpopular, though direct opposition to his will is never attempted, the discontented branch not unfrequently leaves his encampment, and either forms itself into a new tribe, or, if not powerful enough for that, joins itself to the tents of some other powerful sheikh. Instances have been known in which a Bedouin chief has been entirely deserted, and thus the names of several tribes have vanished. As, however, the pride of tribe is strong in every Arab breast, this expedient is only resorted to in the last extreme; but the assumption of supremacy by some subordinate branch, is frequent enough to render the continuance of the sovereignty of the tribe of Montefidsj in the same family, since the days of Mohammed, a remarkable circumstance. The preservation of their herds being the first care of the Bedouins, a wandering life seems awarded to them by nature; the search for proper pasturage leads from place to place in their extensive country, according as the desert has become temporarily fruitful under the influence of the tropical rains, or has been burnt up by the continued action of a tropical sun. Accustomed to live in a clear air, their sight and smell become extremely fine, insomuch that, on arriving at a spot which affords nourishment, however scantily, to plants or herbage, they can at once determine at what depth water is to be found, and, consequently, whether it be worth the labour of digging for. Accustomed to privations, the Bedouin is temperate from habit as well as from disposition, and can almost emulate the endurance of his camels, which, in the burning desert live five days without drink.

A conspicuous part in the Arab's character is his hospitality. In many of the towns where the population is most unmixed, houses of entertainment are kept at the public expense, or at that of some rich individual, where the traveller is fed and sheltered without charge. But, in the desert, hospitality is a part of the Bedouin's nature; and though the influence of foreign manners has, upon the Hadj roads, considerably dimmed the lustre of this virtue, yet even there a helpless, solitary traveller, is sure of finding relief, though the assembled Hadjis should crave in vain for assistance or mercy. In districts off the Hadj roads, that is, over much the greater portion of the

desert, the Bedouin considers his property less as his own than as that of the casual stranger he may meet; however hungry, he shares his last morsel with the wayfarer; and sacrifices which he would not make for himself or his family, are made unhesitatingly for the wants of his guest. The inhabitants of the towns have fewer points of interest than the Bedouins. Niebuhr (par. ii. p. 327) says they have lost much of their distinctive character; and other travellers speak of them as having superseded the vices of civilised society to those of a savage state. 'Superstitious, yet irreligious; performing all the *rites* of their faith, yet living in the practice of every vice, natural and unnatural. Hypocrites by profession, preferring a lie to the truth; even when not urged by motives of interest, deceit forms a part of their education from youth. Their governments are systems of extortion and tyranny; their traders are fraudulent, corrupt, and dishonest overreachers; the individuals of their communities are sunk into the lowest state of ignorance and debauchery.' Such is the character given of the town Arabs by Lord Valentia (ii. 354, 355), and a similar picture is unwillingly exhibited by Niebuhr (par. ii. pp. 180-190). (Ali Bey, Burckhardt, and Buckingham, *passim*.)

In prosperous times, the right of entertaining a guest is frequently disputed; and should a stranger reach the encampment unobserved, it is reckoned an affront if he pass the first tent on his right hand, and enter another.

In many tribes the women are permitted to drink coffee with strangers; and in some, towards the S., the wife entertains a guest in the absence of her husband, and does the honours of the tent. To tell an Arab that he neglects his guest is the greatest insult that can be offered. (Niebuhr, par. i. pp. 41 43; Burckhardt's Not. on Bed., pp. 100-102, 192-199.)

The superiority of the Bedouins appears to be admitted by the town residents; for the descendants of Mohammed, resident at Mecca, send their male children, eight days after birth, to the tents of the neighbouring Bedouins, where they remain till they are eight or ten, and frequently fourteen or fifteen years old. All sheriffs (descendants of the Prophets), from the sovereign downwards, have been thus bred; and, as they usually take wives from the tents where they have been educated, they preserve the race and many of the customs of the Bedouins, in the midst of the mixed population by which they are surrounded. This custom is very ancient among the pure Arabs. Mohammed himself was educated in the Bedouin tribe of Beni Saad. (Burckhardt's Travels, vol. ii. pp. 424-428.)

The Arabs are of a middle height, generally extremely thin, and when either very young or far advanced in life, of a highly prepossessing appearance. The mild but expressive countenance of an Arab boy, and his dark, sparkling eye, are spoken of in terms of admiration by all travellers. As he reaches manhood, however, a very disadvantageous change takes place; his meagre figure becomes still more attenuated, and seems as though it were parched and shrivelled up. The very splendour of his eye, buried between high cheek-bones, apparently destitute of every covering except the tightened skin, is then rather a deformity. But, in old age the Arab is truly venerable. The fine dark eye contrasts admirably with the long white beard; and the emaciation which, in middle life, seems to intimate premature decay, assimilates well with the closing scenes of existence. There are exceptions, however, to this general description. The Aeneze Bedouins are generally short

well formed, and by no means so thin as the majority of their countrymen. The Gharrah Bedouins are a fine athletic race of men. 'It struck me,' says Captain Haines, in his Memoir of the South and East Coasts of Arabia, contributed to the Journal of the Geographical Society, 1845, 'that their women (who are modest, though they wear scarcely any covering) and their young men have a Jewish cast of countenance.' The lower orders in Mecca are generally stout. The Arab women are stouter than the men, and larger limbed. The complexion of the Bedouins is tawny, but this is evidently the effect of their exposed life; an effect which the same exposure would produce on the most N. people. At the time of birth the infant is fair, even of a livid whiteness; and Burckhardt, who, as a physician, saw the naked arms of a sheik's lady, states that her skin was as fair as that of any European. Lord Valentia makes the same remark regarding the wives and daughters of an Arab of Djidda. (iii. 808.) In the towns, the Arabs may be described as fair, especially in the mountain districts. But this remark must be understood as limited to those of pure descent: on the coasts, and in the towns of Mecca, Medina, &c., the prevailing colour is a sickly yellowish-brown, lighter or darker according to the origin of the mother, who is, in many, perhaps in most cases, an Abyssinian slave. (Niebuhr, par. i. p. 41; Ali Bey, vol. ii. pp. 103, 106; Burckhardt, i. p. 822; ii. p. 240: Notes on Bedouins, p. 29; Valentia, ii. p. 851.)

The Arabs, like other Eastern people, wear long dresses. A cotton shirt, over which the more wealthy wear a *kombar*, or long gown of silk or cotton stuff, and the poorer classes a woollen mantle, is the usual costume. The mantle is of various kinds: one very thin, light, and white, is called *mesoumy*; a coarser and heavier kind, worn over the former, is called *abba*. In some cases, however, this last is a very splendid garment. It is usually striped white and brown, but the rich Arab frequently clothes himself in a black *abba*, interwoven with gold, in preference to the *kombar* or Turkish gown. The *abba* is not used in the W. districts, Yemen and Hedjaz. In the towns, large cotton drawers are worn by the men; but these rarely form a part of the Bedouin's dress, among whom any covering for the feet or legs is almost unknown. Though they walk and ride barefoot, they greatly value yellow boots and red shoes; but more as articles of ornament than use. A very rude kind of sandal is worn by the lower orders in the settled parts of the country, and the more wealthy inhabitants of the same districts use a slipper of yellow or red leather, sometimes very elaborately worked, brought from Egypt or Turkey. The head-dress is a turban, varying in form, size, and material, according to the taste or wealth of the wearer.

Arab cookery is very peculiar. No oil is used for culinary purposes, except in frying fish. Butter is their universal sauce, and of it the consumption is immense; their vegetable dishes all float in butter; with it they work their *adjoue* into a proper consistency; dried corn, or bread crumbs, boiled in butter, is a common breakfast with all classes; and, in the desert, the *hemmayes* are prepared for use in the same manner. Arab butter is made from the milk of sheep and goats, that of camels not being used for that purpose. The home supply is not nearly sufficient for the consumption, and butter consequently forms an important article of importation. It is brought from the opposite coast of Africa, chiefly from Souakin, Massouah, and Upper Egypt. Salads are unknown. Coffee is used to a great extent, though

scarcely so much as might be expected; and tobacco is smoked universally by young and old.

The parental character is highly respected; though the Arab children, both in the towns and in the desert, have more freedom than in any other E. country. The Bedouin child runs naked, in the open country round his father's tent; and at Mecca, Djidda, and other towns, the children, even of the better classes, are allowed to play in the streets as soon as they can walk, nearly in the same primitive state. But, within doors, the strictest decorum is observed, a boy never presuming to eat in his father's presence, unless expressly invited. It would seem, however, that this is little better than mere ceremony; for, when emancipated from his father's authority, the young Arab pays him little deference, and instances are not uncommon where the old man, having fallen into poverty, is left by his, perhaps wealthy, son, to struggle with distress, or to seek for assistance at the hands of strangers. An old Bedouin is sometimes supported by the charity of the whole tribe; and the daily quarrels between the father and his adult sons form one of the most revolting features in the Bedouin character. On the other hand, however, it should be stated that the Arab, young or old, invariably treats his mother with the most respectful attention. This fact is the more remarkable as contrasted with the little estimation in which the female parent is held in other E. countries; and as combined with the fact that, in Arabia, the facility of divorce (see Laws, &c.) tends naturally to loosen every tie that connects families. (Niebuhr, par. i. pp. 44, 45; Burckhardt's Travels, i. p. 840; Notes on Bed., pp. 65, 66, 199-203.) The Arab has a grave deportment, but a lively imagination: he is a stranger to gaiety, in the European sense of the word, but the silent reserve of most other E. nations is equally unknown: he delights in public meetings—especially on occasions of weddings, births, and the like; his language is animated and picturesque; he is intuitively a poet and an orator, and is extravagantly fond of music. In a word, the demeanour of the Arab may be characterised as a serious cheerfulness; equally removed from boisterous mirth on the one hand, and dull apathy on the other. One of the chief amusements is listening to the recitations or songs of poets by profession, who travel from town to town, or from encampment to encampment, after the fashion of the bards and minstrels of Gothic Europe, accompanying their verses, usually in praise of some native hero, with the *nebab*, a kind of guitar. Niebuhr affirms (Voyage en Arabie, ii. p. 134) that it is reckoned scandalous in people of credit to practise music; and Burckhardt (Notes on Bedouins, p. 143) states that, in most districts, slaves only perform before company. This contempt for instrumental music does not, however, extend to vocal performances: songs, or chanted poems, form the great delight of the Arabs. Love odes, closely resembling the similar productions of the Trobadours and Provincials of the middle ages, are in every mouth. Dancing is reckoned disgraceful in a man, but a woman piques herself upon nothing more than skill in that art. Their ordinary amusements, beyond those now mentioned, are of a sedentary and indolent kind. The military, indeed, and the young Bedouins, practise the djireed, and other warlike sports; but unless particularly excited, the Arab, both of the town and desert, employs his leisure in smoking, or in playing games of chance, of which chess, draughts, and cards are the principal. The cards in use are similar to those of the Chinese, which are much more numerous than those of Europe; and the

games, also, are more intricate and involved. The Mohammedan law prohibits playing for money, but this prohibition is not always attended to. (Niebuhr, *Voyage en Arabie*, tom. i. pp. 141-152; Burckhardt, *Notes on Bed.*, p. 202; *Travels*, i. 377; Lord Valentia, vol. ii. p. 308.) All public occasions are festivals to the Arabs. The poorest will make his marriage a gala day; but the greatest family festival is that of the circumcision of an infant: on such occasions the greatest efforts are made to give a handsome entertainment. In the desert it is usually so arranged that all who have families perform the ceremony on the same day, which is consequently one of great festivity. The religious festivals and the saints' days—which are very numerous—are also days of sport and rejoicing. On such occasions the town Arabs affect great splendour in appearance, and a person would rather be thought a thief than allow one of his equals to exceed him in finery. The Bedouin, also, on such occasions, loads his wife with gold and silk, but seems little careful as to what appearance he may make. Ali Bey affirms that the people of Mecca are the dullest and most melancholy he ever saw; that their marriages and births are unaccompanied by rejoicings, and that the arrival of the Hadj is the only thing that arouses them from their lethargy; and that it is rather an incentive to avarice than pleasure. (Ali Bey, ii. pp. 103, 111; Burckhardt, i. p. 338; *Notes on Bed.*, pp. 50, 51, 147, 148.) Mohammed found the slave trade so firmly established in Arabia that he made no effort to abolish it; and throughout the peninsula there are a great number of black slaves, Africans, or the descendants of Africans, or mixed races, besides a great number of free blacks, the offspring of emancipated negroes. The great slave dealers are the Yemen and Muscat merchants, who annually import fresh supplies from the coast of Africa. In the towns, especially those of the Hedjaz, every man, almost, keeps an Abyssinian mistress, whom it is reckoned shameful to sell; and whom, if she bear him a child, he generally marries. This accounts for the swarthy complexion of the people of Hedjaz. The male slaves and the females, not Abyssinian, are usually employed in domestic duties. The Bedouins never cohabit with their female slaves; but after a few years' service they give them their freedom, and marry them to some of their own complexion. The offspring of these marriages are free, so that a vast number of these black naturalised Arabs are spread over the country. The emancipated slave possesses all the rights of a free Arab, but no Bedouin, male or female, will intermarry with the race, so that they remain a distinct people, discriminated by their colour from all around them. They have, however, lost much of the negro appearance, especially the woolly hair and thick lip, but the form of the head still bears witness to their origin. Greek and Syrian slaves are found commonly enough in the bazaars; but they are not regularly supplied. A native Arab is by birth a freeman; and though, in most cases, the condition of the mother fixes that of her offspring, there is no difference between a man's children by his Arab wives and those by his Abyssinian slave. Instances of harsh and cruel masters occur (Ali Bey, ii. p. 103), but, generally, slaves are considered as part of the owner's family; the younger ones are instructed with their owner's children, from whom indeed, they are distinguished only by a very slight difference of treatment, and the performance of some menial offices. They are protected by legal provisions; and upon a just ground of complaint against his master, the *cadi* will order a slave to be sold. Servility is no bar to

official dignities; indeed, the *dolas*, or governors of towns, are not unfrequently selected from slaves, for the express reason that they belong to that class; being supposed to be more strictly bound to their masters' interest than free Arabs of noble blood. (Burckhardt, i. pp. 342, 343; *Notes on Bed.*, 103, 104; Ali Bey, ii. pp. 45, 103; Niebuhr, *Des de l'Ar.*, par. i. p. 91; Lord Valentia, vol. iii. pp. 328, 329.)

Arabia, if united under one, or even a few governments, would possess many of the elements of political power. The nature of its soil and climate has always proved a formidable obstruction to foreign invaders, while the conquests of the immediate successors of Mohammed bear witness to the effect that the combined operation of its military energies is capable of producing. Split as the country is into some hundreds of petty sovereignties, this effect is little likely to be repeated. Though every Bedouin is by birth a soldier, dreams of conquest, beyond the plunder of a camp or caravan, rarely disturb his imagination; and though the princes of the settled districts surround themselves with regular troops, they employ them rather to avert internal treachery than to make any attempt at foreign aggrandisement. Still, however, the military power of the Arabs is considerable. In 1815, the princes opposed Mehemet Ali with an army of 25,000 men; and in 1803, the Wahabee chief marched against the same potentate at the head of 45,000. (Burckhardt's *Notes*, p. 248; Ali Bey, *Travels*, vol. ii. p. 115); and though unable to prevent the establishment of the Egyptian power in the Hedjaz, they delayed it for some years, during which they more than once defeated the troops of the Pacha, and failed at last, more, as it would appear, from want of concert in their operations than from want of force. It should be remarked, too, that Mehemet Ali seems fully satisfied with the possession of the sea-ports of the Hedjaz, and the holy cities. During twenty-four years he has made no attempt to extend his conquests; but has sought to conciliate his neighbours, and his new subjects, by enacting laws equally favourable to both. The sultan sheriff of the Hedjaz, previously to the Egyptian conquest, maintained a guard of 1,000 men at Djidda, and probably 8,000 or 4,000 more in the other towns of the Hedjaz: this army is still maintained. The iman of Yemen has an army of 4,000 or 5,000 men, and the iman of Muscat, one of about 1,000. The smaller settled states have also their military forces, but no return of their amounts can be obtained.

The Bedouin attends his chief much in the fashion that the feudal vassal attended his liege lord during the middle ages in Europe. He arms, equips, and clothes himself; and trusts for pay to his share of booty. The Wahabee chief, who is essentially a Bedouin, has indeed kept on foot a large body of mercenary troops; but this system is in its infancy in the desert, and it is doubtful whether it will survive the present generation. The Wahabee power, since 1815, has evidently been on the decline. In the settled states, on the contrary, the soldiers are all mercenaries, their pay being, in general, 2½ dollars per month, in addition to food, arms, and clothing. This accounts for the different appearance made by an army of Bedouins, and one belonging to the states of Yemen, Muscat, Hedjaz, &c. The former present a motley appearance as to arms and equipment; the latter have the same arms and uniform. The Bedouins use long lances, sabres, and short crooked knives; and shorter lances for the footmen. Clubs are very common, where lances, (which are never of home manufacture) cannot

be procured; and the Bedouins have several kinds, some wholly of wood, some laden with iron, and others wholly composed of the latter material. Matchlocks, and, in more recent times, rifles, are in great request, but not very plentiful; though, when possessed of one, the Bedouin is an almost unerring marksman. The pistol is a favourite weapon.

A shield, 18 in. in diameter, covered with ox or hippopotamus hide, is a very common piece of defensive armour; in addition to which, coats of mail are worn whenever they can be procured. An iron cap, without a feather, iron gloves, and sometimes greaves, for the legs, complete the costume of the mailed Arab. This mode of equipment is, however, chiefly confined to the Bedouins. Of all the arms in use, only the jambea, the clubs, and the target, are of home manufacture; the lances come from Syria and Persia, the sabres nominally from Damascus, but in reality from Liege, in Belgium, the matchlock from Egypt, Turkey, and Europe, and the coats of mail, principally, from Syria.

It is a common practice for all Arabs, except merchants and learned professors, to go armed. The jambea is the usual weapon. (Niebuhr, par. ii. pp. 184-190; Burckhardt's Notes, 30-32, 184, 185, 248; Travels, vol. i. pp. 888, 889; Ali Bey, ii. pp. 109-116; Lord Valentia, ii. p. 848, iii. p. 829.)

Agriculture.—The nature of the soil restricts the pursuits of the agriculturist to particular localities, and his return varies materially in different parts of the peninsula. In Oman, the better sort of wheat, even when the season has been peculiarly rainy, will not return more than ten for one; nor the dhourrah (a coarse kind of barley) more than twelve for one; while in the most fertile parts of Yemen, wheat is said to yield sometimes as much as fifty times the seed, and the return for the dhourrah, it is affirmed, amounts to 150, 200, and sometimes even 400 for one. But statements like these, being liable to extreme exaggeration, must be received with considerable scepticism; though, as the dhourrah yields, in this district, two and even three crops in the year, the accounts of its extreme productiveness are not so very extravagant as, at first sight, they seem to be. (Niebuhr, Des. de l'Ar. par. i. p. 185.)

The Tehama of Yemen, whenever its arid soil is naturally, or can be artificially irrigated, is plentifully sown with dhourrah. The plough is dragged in every direction over the field, till the earth is well broken and completely mixed. The sower follows the plough, and casts the seed into the furrow, as it is formed, the return of the plough covering the grain. In about eight weeks the dhourrah is fit for the reaper; but as the farmer wishes the corn to be extremely ripe and dry before it is gathered, it remains standing a week or two longer, and is then pulled up by the roots. As, by this process, a considerable quantity of the dry seed is shed, the plough is again passed over the ground, and, in about ten weeks, a second crop is produced, which, being gathered in the same way as the first, is, as before stated, not unfrequently followed by a third.

The plough is of the rudest description; and even this cannot be used on the mountain side; the latter being tilled by means of an iron hoe, or rather pickaxe. These, with tools of primitive construction for cutting channels in the fields and gardens, and for forming banks or dikes to preserve the water, complete the scanty list of agricultural implements. When the corn is to be threshed the Arabs place it in two rows, ear to ear: a large stone is then drawn over it by two oxen, so that the grain is rather crushed than

beaten out of the husks. A water-mill would be an anomaly in a country where there are hardly any streams; but, with the exception of one or two, lately introduced into the Hedjaz by the Egyptians, there are no windmills in Arabia. The corn, when ready to be ground, is placed between two stones, of which the uppermost, if small, is turned by the hand; if large, it is worked by an ox or ass. (Niebuhr, par. ii. p. 189.)

But notwithstanding this rude state of agriculture, such is the fertility of the S. parts of Arabia, that they not only supply corn for their own consumption, but for that of the greater part of the other districts, and of the wandering tribes of the desert. The Hedjaz is, however, almost wholly dependant on supplies from Egypt. (Ld. Valentia, iii. 325 *et seq.*; Ali Bey, ii. 46, 101, &c.; Niebuhr, par. ii. 302-307.)

Manufactures.—These are at a lower ebb in Arabia than in perhaps any other semi-civilised country. Among the Bedouins, two or three blacksmiths, and a few saddlers, are the only artists: they are not members of the tribe for which they labour, but natives of the neighbouring towns and villages. The Bedouins regard them as an inferior race, and would feel degraded were any individual of their tribe to give his daughter in marriage to one of them. It is curious, however, that while they thus regard the service of their horses (their greatest pride) as a menial occupation, they should themselves unscrupulously perform other works, which appear to us quite of as low a character. The businesses of dyeing and tanning are performed wholly by the men. The Bedouin women weave the coverings of tents and the bags for holding provisions, of the hair of goats and camels, but the manufacture of tent-covers is confined to the mountainous regions, where goats abound, their hair being exclusively used for that purpose. (Pliny, Nat. Hist., lib. vi. cap. 28, p. 142.)

These are all the arts or manufactures practised among the Bedouins; and the standard seems scarcely higher in the towns. It is true that gold and silver ornaments are manufactured in Yemen; but by Jews and Banian Indians. Even the money which is coined in that district (and there is none coined in any other) is the work of the former; and the only watchmaker who ever settled in the country was a Turk. Of machinery, there is next to none. Some rude sorts of arms are made in Yemen, as the crooked knife, *jambea*, and a very inferior matchlock. There are also, in Yemen, several looms for the manufacture of coarse linen; and this, like the hair and wool-weaving among the Bedouins, forms by far the most important of all their industrial occupations. Some woollen cloths are also woven; but this manufacture is much less extensive than the former. The slippers and sandals in common use are brought from Egypt and Constantinople; and the only attempts at manufactures are confined to the construction of rude matchlocks, *jambeas*, and lance-heads, together with vessels of copper and tin, in which the pilgrims carry away the water of the holy well, *zemzem*. (Burckhardt's Travels, i. 848; Ali Bey, ii. 99, 100.) In Oman, the only manufactures are sashes and turbans of silk or cotton, the *abba*, or Arab cloak of wool or camel's hair, a coarse kind of cotton canvass, arms of a very rude description, earthen jars, called *murtaban*, and gunpowder. (Frazer's Journey into Khoraasan, p. 18.)

At Suez, Hodeida, Mocha, and Muscat, some of the vessels are constructed in which the Arabs carry on their coasting, and Indian trade. Till within these few years, ship-building was carried on at Djidda also (Ali Bey, ii. 45); but though it be still a very important shipping-station, no ves-

els of any kind are now built at it, and it is with difficulty that means are found of even repairing a ship or boat. (Burckhardt's Travels, i. 43.) The want of wood, in Arabia, lays the shipwright under peculiar disadvantages. The timber used in Suez is felled in the woods of Asia Minor, conveyed up the Nile to Cairo, and thence, overland, to its place of destination. When ships were built at Djidda, the timber came by the same route; and it may be presumed that its further transit, by the Red Sea, from Suez rendered it too costly. In Mocha and Hodeida a part of the timber is procured from the mountain-sides of Yemen, but the greater portion is imported from the coast of Africa. (Burckhardt's Travels, i. 42-49.)

The ships of the Arabs, excepting those of Muscat, which are of a very superior description, are extremely rude and simple. Those called dows are the largest, and are the only ones that perform the voyage to India. (Burckhardt's Travels, i. 43.)

The unskilfulness of the Arab seamen, with the clumsy nature of their dows, render shipwrecks of very frequent occurrence. Ali Bey was wrecked on his voyage from Suez to Djidda, and again on his return from Djidda to Suez (Travels, ii. 34, 164); and he affirms that not a year passes without several vessels being totally lost, and many more, more or less injured; so that ships are always being built or repaired, without increasing the actual number employed in the coasting trade (ii. 45). That number is, however, considerable; the ships belonging to Djidda only amount to 250; and it is estimated that about as many belong respectively to Suez, Hodeida, and Mocha. (Burckhardt's Travels, i. 42; Ali Bey, ii. 45.) Many of these ships are purchased at Bombay and Muscat; the vessels of the latter being very superior to those of the Red Sea, and their navigators much before the sailors of Yemen in energy and skill. (See MUSCAT.)

The best houses of the Arabs are built of stone, or, if upon the coast, of madrepora and coral. This latter material is of such a nature that it rapidly decomposes when exposed to the weather. In other parts they use a sun-burnt brick with little or no lime, so that constant care is necessary to prevent the introduction of moisture, the tropical rains bringing with them sure destruction to the neglected buildings of an Arab town, quickly reducing them to a heap of rubbish; and as the wooden materials very soon vanish in a country where wood is extremely scarce, the very ruins of many cities, formerly celebrated for their magnificence and grandeur, may now be sought for in vain. Even in towns that are populous, and stirring with activity, many houses are falling rapidly to decay; and while no part is old, many parts are dilapidated and ruinous: yet an Arab town, on the first approach to it, appears handsome and picturesque; the houses, like those all over the East, are flat-roofed, and among them rise, here and there, the dome-covered tombs, called *bobas*, which, with the tapering minarets of the mosques, give to the whole outline an air of variety and elegance. Every good house exhibits a series of gaudy lattices to its windows; and many of them are ornamented with fanciful designs in white stucco. Most of the gateways have pointed arches; and the general character of the ornamental architecture is not very dissimilar to the Gothic. The mosques are square buildings, or rather parallelograms, without much external beauty, except their tall and slender minarets, which always appear light and graceful; but their interior frequently displays much skilful workmanship. The great mosque at Mecca contains more than 500 columns and pilasters of very great beauty. The

houses of the poorer classes are of the most wretched description. Huts composed of wicker work or date-tree leaves, covered on the inside with mats, and sometimes on the outside with a little clay; huddled together, and hardly sufficient to afford a shelter from the weather. These circumstances, with the filth collected in the unpaved streets, and never removed, impress the mind of a European with a sense of utter desolation and misery.

No remains of the fine Saracenic architecture of the middle ages are found in Arabia; singular as it may appear, that a people who have left the traces of their skill in this art in every land, from Mesopotamia to Spain, should possess no trace of it in their native country. The perishable nature of building materials in Arabia may account for this fact, for even the holy mosque at Mecca has undergone so many repairs that it may be regarded as a modern structure; but it is much more probable that, while the Arab conquerors caught the love of arts and sciences from the enervated, but refined, nations subdued by them in their headlong career of conquest, those arts and sciences did not find their way into the peninsula, and that architecture, like the rest, never flourished within its limits.

The Arabs use no levels in their buildings, consequently their floors are very uneven; and, notwithstanding the heat of their climate, they have a very bad, or, rather, no idea of ventilation. The large ventilators, placed on the house-tops in Egypt, and which diffuse a current of air through all the lower apartments, are totally unknown. In many places the windows are composed of transparent stone, built into the walls, and, consequently, incapable of opening. (Burckhardt's Travels, i. 17-22, 158-155, 185-242; ii. 150, 829, &c.; Ali Bey, ii. 30, 42, 94-104, 161-174; Lord Valentia, ii. 845-848; Fraser, 7, 8.)

Commerce.—Owing to the situation of Arabia, nearly surrounded by the sea, and occupying, as it were, a central position between Europe, Asia, and Africa, it has always enjoyed a considerable trade, which, in later ages, has been materially promoted by the resort of pilgrims to the holy cities. The hadjis, indeed, are expressly authorised by the Prophet to combine commercial pursuits with the performance of a religious duty (Koran, chap. ii. Sale); and a great amount of business is, consequently, transacted at Mecca, during the period that the pilgrims remain in that city. With the exception of coffee, and a few other articles of inferior importance, Arabia has but little native produce to export. Its trade, therefore, is, and always has been, principally one of transit. Great quantities of commodities are annually brought to Djidda, Mecca, Muscat, and its other entrepôts, from Turkey, Persia, Africa, and the Indian Islands. With our own country, however, Arabia has scarcely any intercourse whatever. The total value of imports into the territories of the Imaum of Muscat from the United Kingdom, in the year 1863, amounted to 1,189 £, representing 2,489 tons of coal. In the four preceding years the imports were nil. The exports from the United Kingdom into the territories of the Imaum of Muscat, in the year 1863, were of the value of 31 sterling. (Annual Statement of Trade and Navigation.) The great centres of Arabian trade are Djidda, Mocha, and Muscat. The first is the port of Mecca, and also the principal channel through which the regular trade between the Hedjaz and Egypt is carried on; the former being principally dependant upon the latter for its supplies of corn. Since the zeal for pilgrimage has begun to abate in the Mohammedan world, the trade of Arabia has considerably decreased; but it is still carried on to a

greater extent than would readily be supposed, considering the limited amount of its population and productions. Mocha is the principal seat of the coffee trade, though Loheia has of late years made some powerful attempts at rivalry; and Muscat has recently risen to very considerable eminence as a sea-port and seat of the carrying trade, particularly with India and the countries round the Persian Gulf. (Burckhardt's *Travels*, i. 29-31; Ali Bey, ii. 101-107; Fraser, 16; Lord Valentia, ii. 370; Niebuhr, par. ii. p. 198. See also, DJIDJA, MOCHA, MUSCAT, &c.)

Laws, Crimes, and Punishments.—The laws of Arabia are those of a primitive people under a patriarchal government. The civil laws, founded upon the Koran, are administered by cadis, distinguished by their experience in the customs of the nation, but to whom a knowledge of the arts of *reading and writing* is not always indispensable. It should be observed, however, that the Arab judges are of two kinds; the *Cadi-el-seriaa* (judge of customary law), and the *Cadi-el-sheryaa* (judge of written law), the latter being more common in what are called the Turkish towns (that is, in towns governed by Turkish law), than in those where the unmixed customs of Arabia exist. Written pleadings are not, however, unknown, even in pure Arab towns; but precedents (in some cases, perhaps, reduced to a rude form of codification) seem to form the principal, if not the only guide, to an Arab judge's decision. The sovereign, whether he be monarch of a state, or sheikh of a Bedouin tribe, is only president of the tribunal of justice; he cannot decide a case, either civil or criminal; every one must be referred to the proper tribunal; and the sovereign possesses no power of reversing its decision. But this protection from despotic power is, in the towns, merely apparent; for, as the sovereign names the cadis and dismisses them at pleasure, they regard themselves simply as his officers, and never dream of pronouncing a sentence of which he disapproves. Among the Bedouins, however, the office of cadi is elective, and the sheikh has no influence in the appointment. (Niebuhr, par. ii. pp. 180, &c.; Burckhardt, *Notes on Bed.*, pp. 68, &c.)

Capital punishments are very rare; being inflicted only for blasphemy, and conjugal infidelity in women. The blasphemer is hanged; the unchaste wife, if her guilt be unequivocally proved, has her throat cut; and, by an unheard of refinement of atrocity, her father or brother is compelled to be her executioner. This detestable barbarity is, however, rarely perpetrated; for the marriage tie being, on the part of the husband, of very easy dissolution, he generally prefers sending his offending spouse back to her family, merely assigning as a reason that she does not suit him. (Niebuhr, par. i. p. 21; Burckhardt, *Notes on Bed.*, p. 68.) Corporal punishments are almost unknown. The immemorial usage is to award a pecuniary fine, whatever may be the nature of the crime. Every offence has its ascertained mulct, even to murder; but, in this case, the friends of the deceased are not compelled to take the compensation, being, by the law of *Thar*, or blood revenge, allowed to take the life of the homicide, or that of any of his relations within the fourth degree. If, however, the fine be accepted, the Koran expressly provides for the safety of the murderer. (Koran, chap. ii. p. 21; Niebuhr, par. i. pp. 28-31; Burckhardt's *Notes on Bed.*, pp. 84-89.) Insulting expressions, acts of violence, however slight, and the infliction of wounds, have each their respective tariff of fines. The decisions of the cadis are generally founded upon the amount of testimony before them; but, if there be no witnesses, the defendant

is called upon to expurgate himself by oath. The judicial oaths vary in sanctity and solemnity; and if the accused swear, by the one proposed, to his innocence, he is considered as acquitted.

Among the Bedouins, the customs of *Wasy* and *Dakheil* have all the force of law in other countries; by the first, an Arab family binds itself to be the protector of another, and this obligation, once undertaken, descends through all the generations of both. There is no Arab, from the lowest to the highest, but has his *wasy*, or guardian; and the duty of protection inferred from this character, is among the most sacred recognised in Arabia.

By the law of *dakheil*, a person in actual danger, who can touch another, or even anything with which that other is in contact, or can hit him by spitting or throwing a stone at him, at the same time exclaiming, '*Ana dakheilak*,' (I am thy protected,) acquires a right to the protection which he seeks, and which is always accorded to the fullest extent. Even a detected thief, if he can touch anyone in his captor's tent (except the captor himself), becomes safe; for which reason he is bound hand and foot, and beaten, till he agrees to renounce the *dakheil* for that day. It is for this reason, too, that he is subsequently buried alive, as it were; for should he become the *dakheil* of anyone, his right to freedom is immediately allowed, and he is treated, in every respect, like a newly arrived guest in the tent of his late enemy. There is only one offender to whom the privilege of *dakheil* is refused, namely, the thief released upon the responsibility of some third party, if he should, when at liberty, refuse to satisfy his bail. Under such circumstances, he is proclaimed *traitor*, and loses all the privilege in question; in fact, becomes outlawed. The *dakheil* does not apply to a homicide under the *thar*. (Burckhardt, *Notes on Bedouins*, pp. 74, 75, 89-100, 182.)

Though polygamy be allowed by the Mohammedan law, in practice it is by no means general. Few men, of moderate fortunes, have more than one wife; and many, even of the highest rank, similarly confine themselves. (Niebuhr, par. i. p. 65; Burckhardt, *Not. on Bed.*, p. 61.) On the other hand, the nature of the marriage ceremony, and the facility of divorce, renders *changes* of wives of very common occurrence. In the towns, an agreement before the cadi, in the desert, the slaughter of a lamb in the tent of the bride's father, completes the contract, which is broken quite as readily as it is formed. The husband having said, before witnesses, '*ent talek*' (thou art divorced), and sent the woman back to her family, both parties are considered free; the husband from the maintenance of his wife, the wife to form a new connection. In these cases, the woman's portion is returned; and, among the Bedouins, the husband adds to it a she-camel. The custom of divorce is, however, much more prevalent in the tents than in the towns. In the latter it is always considered indecorous, and implying dishonour in the woman; but in the desert a wife may have been divorced three or four times, and yet be free from any stain or imputation on her character. Polygamy, however, is much more common in the towns than among the Bedouins.

If a man leave a widow, his brother generally offers to marry her; but this is entirely a law of custom, and not binding on either party. A man has, however, an exclusive right to the hand of his cousin; and, although he cannot be compelled to marry her, his renunciation of his right is necessary to enable her to marry another. Marriages are consummated at a very early age; it being reckoned discreditable in a man, and almost infamous in a woman, to lead a life of celibacy. (Burck-

hardt's Notes on Bed. pp. 61-66; Niebuhr, par. i. pp. 68-67.)

The law of inheritance is very simple as regards property. The effects of a deceased father are shared among his children, the portion of a male being double that of a female. The succession to power is less clearly ascertained. If a sheikh or sovereign die, his successor is usually taken from among his sons; but it does not seem that any one has a well-established right in preference to the others. In Yemen, it would appear that the iman is succeeded by his eldest living son, even to the exclusion of the children of an elder one deceased. (Niebuhr, par. ii. p. 179; Burckhardt, Notes on Bed., pp. 68, 75; Lord Valentia, vol. ii. p. 880.)

Religion.—Antecedent to the earliest records, the city of Mecca had been sacred ground; and its holy temple, the *kaaba*, identified in the minds of the Arabs with every sacred feeling. The legends with respect to it, to which it is unnecessary more particularly to allude, show that the religion of the early Arabs was, to a considerable extent, mixed up with that of the Hebrews. They acknowledged one supreme God, regarding, however, the sun, moon, planets, and stars, as inferior and subordinate intelligences. This religion has been called *SABIANISM*, either from *SABI*, a supposed son of Seth, or, as is more probable, from the word *SANA*, signifying the Host of Heaven. The supreme God was called *Allah Taala* (Most High God), the subordinate deities, *Al-Salāt* (the Powers). It was these titles (one particular, the other general) that led Herodotus to affirm that the Arabians worshipped only two gods, namely, *Urotalt* and *Atlat*; the former of whom he identifies with the Bacchus (*Διονύσος*) of the Greeks, the latter with Urania, the muse of astronomy. (Herodotus, Thalia, § 8; Al-Firawz, *Shahrestan et alii* in Pococke, pp. 110, 138, 143, 284; D'Herbelot, pp. 725, 728, &c.) The Arabian religion can scarcely be deemed irrational, when professed by a rude people, inhabiting an open country, under a clear sky; who must have connected the changes of the seasons and the returns of the periodic rains and droughts, that rendered their plains alternately fertile and sterile, with the revolutions of the heavenly bodies. But the Arabs also worshipped angels (Koran, chaps. liii. and lxxi.); and their images, which last they believed to be inspired by the supreme divinity with life and intelligence. This sort of idolatry having been once introduced, gradually spread; and in the sixth century, and long before, the number of these deities was very great, each tribe having chosen one to be its peculiar intercessor with the Supreme Being; and 360 were enshrined in the *kaaba*, as tutelary guardians of the days of the Arab year. (Al-Janaub, *Shahrestan et alii* in Pococke, 90 *et seq.*; Sale, Intro. Koran, 14-22; Burckhardt's Travels, i. p. 299, &c.)

The Arabs seem, indeed, to have admitted, without hesitation, all deities; and thus, in the sixth century, a figure of the Virgin Mary, with the infant Jesus, was sculptured on one of the principal pillars of the *kaaba* as an object of adoration. (El Arraky, quoted by Burckhardt, Travels, i. p. 300.) It is most probable that this indiscriminate adoption of the objects of veneration of all sects, was intended to render the sacred city sacred to all men, and thus to increase the resort of pilgrims.

After the destruction of Jerusalem by Titus, A.D. 70, many Jews fled into Arabia. These exiles made many proselytes among the natives, whole tribes embracing the Hebrew faith; so that, in a century or two, the Jewish Arabs became a very powerful section of the whole people. A similar cause, the persecution early in the third century of the Christian era, drove many Christians to

Arabia, whose zeal, unchecked by former sufferings, led them to preach their doctrines in their new homes, and that with such success that in a short time they had made a very great progress in the country.

The faith of the Persian Magi, or the religion of Zoroaster, had, at a very early period, found its way into the peninsula; had been embraced with avidity by many tribes; and thus, in the middle of the sixth century, the population of Arabia was divided, perhaps not very unequally, into Sabians, Jews, Christians, and Magians. (*Shahrestan et alii* in Pococke, 140 *et seq.*; Sale, Intro. Koran, 21-24.)

Such was the state of religion in Arabia at the birth of Mohammed; an epoch which may be regarded as the commencement of one of the most extraordinary revolutions that history has to record. It occurred at Mecca in the month of May, A.D. 571 (Dr. Prideaux, Hist. Moh. 6) or 570 (Abul-Feda, Vit. Moh. 49). This founder of a new religion, and of a political power which, even in his lifetime, extended over his native country, and which, under his successors, threatened to embrace the empire of the world, traced his genealogy in a direct line through eleven descents from Koreish, the founder of the powerful tribe that bore his name. Koreish, again, was affirmed to be the tenth in direct descent from Adnan; and Adnan, the third, seventh, or eighth (which is doubtful) from Ishmael, the son of Abraham. (Abul-Feda, Vit. Moh. cap. ii. pp. 6, 7.)

The future Prophet sprung, therefore, from the noblest tribe of the Ishmaelitic Arabs, and his grandfather was, at the time of his birth, sovereign of Mecca, and guardian of the *kaaba*; consequently, from the sacredness of his territory, and the holiness of his office, a prince of great power and influence. (Abul-Feda, cap. vi. p. 18; Al-Firawz *et alii* in Pococke, p. 51; Ezechiel's Chron. or Hist. Ar., par. i. cap. iii. p. 139 *et seq.*)

Yet, notwithstanding his high connections, Mohammed's early life was passed in comparative poverty. His father, a younger son of the sovereign of Mecca, dying before Mohammed was two years old, the latter, and his mother, were left with no other provision than five camels, and a female slave. To his grandfather, Abdol-Motalleb, in the first instance, and subsequently to his uncle, Abu-Taleb, the future Prophet was, therefore, indebted for his infant protection; and this guardianship was exercised with the greatest kindness, the uncle especially (for Abdol-Motalleb died when Mohammed was only eight years old), continuing the firm friend of his ward, throughout his life, and protecting him in the dangers and difficulties which beset his first attempts to disseminate his doctrines. Under the auspices of his uncle, Mohammed began life as a merchant, accompanying a trading caravan to Syria, in his thirteenth year. Subsequently, and at a very early age, Abu-Taleb recommended him as a factor to Khadija, a rich widow, to whom his skill in commerce, or his other accomplishments, so far endeared him, that, in a short time, he exchanged the name of servant for that of husband; raising himself by this alliance to an equality with the richest, if not the most powerful men of Mecca. At the time of his marriage, he was twenty-five, and his wife forty years of age. (Abul-Feda, caps. iv. and v. pp. 10 and 12.) It would be useless now to attempt to discover the proximate cause that led Mohammed to attack a system of idolatry, of which his own family were at the head. It was not, however, as some have surmised, a sudden outbreak of enthusiasm; for, after his marriage, he continued to live in all the privacy compatible with the station of a rich and highly connected individual for thirteen years. At

the termination of this period, he withdrew from society, resorted to a cave in the neighbourhood of Mecca, where, for two years, he gave out that he was in daily communication with the Divinity. At the end of this time, being then forty years of age, he assumed the character of a Prophet, sent by the Almighty to establish a new religion; or, if we may take his own words, to restore the ancient one, professed by Adam, Noah, Abraham, the Prophets, and Jesus Christ; by destroying the gross idolatries of his countrymen, and weeding out the corruptions and superstitions by which, as he alleged, the Jews and Christians had deformed the beautiful simplicity of the true faith. (Abul-Feda, cap. vii. pp. 14-17; Abul-Pharagius, p. 102; El-Macin. Hist. Sar., lib. i. cap. i. p. 13, &c.)

Nothing can well exceed the simplicity of the Mohammedan doctrines, as delivered by the founder and his immediate successors; and as they are embodied in the 114 chapters of the Koran: The unity of God; the divine mission of Mohammed; the stated observance of prayer; the giving of alms; the observance of an annual fast; and the pilgrimage to Mecca; comprise under five heads, the principal points, whether doctrinal or practical, which were to be enforced. The resurrection of the body was proclaimed, and a future state, in which men will receive the reward of their good actions and obedience to the law of the Prophet, or be subjected to a *purifying* punishment for their evil deeds and infidelity. The *final* admission of all true believers to a state of bliss, is an article of Mohammedan faith. (Koran, *passim*, especially chaps. ii. iii. iv. v. and cxii.; Reland's Moham. Theol., p. 20, &c.) The supposed divine legation of Mohammed is the principal novelty introduced. The stated prayers were only adaptations of customs already existing among the Sabians, Jews, Christians, and Magians; the annual fast was a very ancient practice among the old Arabs; and the only change effected by Mohammed in its observance, was, by prohibiting the intercalation of a month in the lunar year, to make the sacred season fixed instead of ambulatory. (Koran, chap. ix.) The pilgrimage to Mecca was, as has been shown, a practice followed from the very earliest times; and the rewards and punishments in another life were adopted, but with much adulteration, from the Christian doctrines. The grossly sensual character of Mohammed's paradise, is, in fact, the great blemish in his religious system; and has had a most debasing and degrading influence over the countries where it has acquired an ascendancy.

The new religion being in most parts little more than an adaptation of various parts of the religions previously existing in Arabia, was well fitted to attract all by the respect it professed for the peculiar tenets of each, excepting the idolatrous worship of the Sabians. Accordingly, Mohammed was heard with patience by the people of Mecca, till he denounced the idols of the Kaaba. This, however, raised so strong a feeling against him, that his ruin was prevented, and his life preserved, only by the firm friendship of his uncle, Abu-Taleb, who, although unconvinced by the preaching of his nephew, protected him against his enemies. In the sixth year of his mission, the persecutions to which he was exposed became so severe, that many of his followers sought by permission, refuge in other lands, chiefly in Abyssinia; where they became the first instruments for planting the new faith in Africa. This event is called by Eastern writers, *THE FIRST HEJIRA* or flight. (Abul-Feda, caps. ix. x. xi, pp. 21-27; Ebnoull-Athir El-Firawz *et alius* in Pococke, p. 177, *et seq.*)

In less than nine years, Mohammed succeeded in uniting all Arabia in one faith; but did not live long to enjoy his triumph. Some years previously, or in the seventh Hejira, A.D. 628, he was poisoned by a Jewess of Chabbar, who, on his entering that town in triumph, offered him some eggs, previously drugged, professedly to test the reality of his divine knowledge. (Abul-Feda, cap. xlv. p. 92.) Henceforward his strength declined; but his death was caused by a fever which, having at intervals deprived him of his reason, terminated his existence in the space of fourteen days, on the 12th of the 1st month, Rebizah, in the eleventh Hejira (6th June, 632), in his sixty-third, or, according to some authorities, sixty-fifth year. He was buried at Medina; and the Mohammedan doctors differ as to which is the most sacred—Mecca, which gave birth to their Apostle, or Medina, which received him in his flight, and contains his mortal remains. (El-Macin, lib. i. p. 10; Abul-Feda, caps. lxi.-lxiv. pp. 8-142; Ockley's Hist. Sar., i. 1.)

Mohammed died in the midst of preparations to carry his spiritual faith and temporal power into other countries. His death scarcely, however, suspended the completion of his great designs: a momentary state of confusion was followed by the election of Abu-Becre, father-in-law of Mohammed, to the office of supreme head of the Mussulman religion and power, under the title of 'Khalif,' or 'Successor of the Prophet.' Under his reign, and that of his two successors, the Arab arms were carried triumphantly into all the neighbouring countries; and by the twentieth year of the Hejira, or within less than ten years from the death of Mohammed, the conquest of Syria, Persia, and Egypt, was completed. In the thirteenth year of the Hejira, Damascus was taken; in the seventeenth, Antioch; in the nineteenth, Ispahan; and in the twentieth, Alexandria. (El-Macin, lib. i. cap. ii. pp. 16-38; Abul-Pharagius, pp. 108-117; Ockley, i. pp. 1-391.)

The khalifate continued elective for four successive elections; the last who held the power by public suffrage, being Ali, the cousin and son-in-law of Mohammed. This *FIRST BELIEVER* had been thus long passed by, in consequence of his refusing to hold as sacred anything not contained in the Koran, or the immediate traditions of the Prophet. (Abul-Pharagius, p. 115.) From this circumstance arose the division of the Mohammedans into two great sects, the *SONNITES* and the *SCHITES*. The latter, the disciples of Ali, whom they denominate the *vicar of God*, receiving only those doctrines which he admitted to be sacred; while their adversaries (the orthodox Mussulmans) hold, at least in *equal* reverence, the 7,275 *Sonnas*, or oral laws, which, within the first 200 years of Mohammedanism, had grown into respect and veneration. (D'Herbelot, arts. Bokhari, Hadith, and Sonnah, pp. 238, 416, and 807.)

Ali fell by the hand of an assassin, after a troubled reign of five years; and Moawijah, son of Abu-Sophian, the greatest enemy of Mohammed, usurped the throne; and, what is more remarkable, had the power or art to make the khalifate hereditary in his own family. His descendants are called the *Ommiyade* race of khalifs, from Ommiyah, the grandfather of Abu-Sophian; and they possessed the regal and sacerdotal power through fourteen generations, and for nearly 100 years. (El-Macin, lib. i. caps. v. and vi. pp. 39-49; Abul-Pharagius, pp. 117-123; Ockley, ii. pp. 1-106.)

The Ommiyade khalifs were, in the 138th Hejira (A.D. 750), superseded by the descendants of Abbas, one of the uncles of Mohammed. The Ommiyade dynasty had never received the cheerful submis-

sion of the Prophet's family; and, after a lengthened struggle, the last Ommyyade khalif was completely defeated in Mesopotamia, and again in Egypt, where he was slain. Abul-Abus-Saffa, and the princes, his descendants, are known in history as the Abbasside khalifs. (El-Macini, lib. i. cap. xxi.; lib. ii. cap. i. pp. 95-100; Abul-Pharagius, pp. 137, 138.)

The seat of government had, in the meanwhile, been removed from Medina to Damascus, and from the latter to Bagdad. It was in this new seat of empire that the Arab claim to literary and scientific eminence was first raised. It was here that the splendid courts of Haroun-al-Raschid, and his sons, Al-Mansoor and Motassem, were held. It was here that, under their patronage, the Greek sages and philosophers were translated, that the native Arab genius raised its head, and carried the sciences, physical and metaphysical, together with the useful arts, to a point of grandeur unknown in former times. The names alone of the Saracen philosophers, mathematicians, astronomers, physicians, botanists, chemists, and architects, who illustrated this period of Arab history, would fill a volume. Of chemistry, they may be called the *inventors*; and although in astronomy, they did not presume to depart from the Ptolomean hypothesis, they carried out the views of the Alexandrian philosopher, and attained results marvellous for their accuracy, when the erroneous nature of the data on which they were founded is considered. To the astronomical tables of Bagdad, Cordova, and Samarcand, subsequent observers owe a large debt of gratitude; and many of the common terms in modern astronomy, and most of the names applied to the fixed stars, attest the source whence Europe drew the elements of astronomical science. The Arabs, if they did not invent, at least were the great improvers of algebra (the name sufficiently attests its origin), which placed in the hands of the analyst an instrument of vast and apparently unlimited power. Perhaps, however, the most important invention we owe to the Arabs, is that of the arithmetical characters, now in common use, which banished at once and for ever the cumbersome and unwieldy notation of the Romans. In medicine, the Arabs were pre-eminently great; and the magnificent remains of their public and private buildings, in Syria, Egypt, and Spain, evince their skill in architecture. The Arab court of Bagdad was, in fact, the centre of the knowledge and refinement of the period in which it existed; and, by a singular contrast, that period corresponded with the darkest and most degraded portion of European history. (Abdul-Pharagius, p. 150, et seq.; D'Herbelot, pp. 480, 545, &c.)

Schools and Education.—The learning which gave celebrity to the court of Bagdad in the middle ages, does not appear ever to have been naturalised in Arabia. Before the era of Mohammed, ignorance (that is, ignorance of written learning) was so far from being accounted disgraceful, that we learn from the Koran (chap. xxix.) that Mohammed, though of the royal house of Hedjaz, could neither read nor write; and, in the present day, judges are frequently illiterate. (Burckhardt's Notes on Bed., 68.) It cannot, therefore, be supposed that education in Arabia is either very good or widely diffused. According to Niebuhr (Des de l'Ar., par. i. p. 91) 'the Arab princes by no means encourage science; and, throughout the East, you meet few who merit the title of learned.'

Public provision is however made for the education of youth; and a teacher for the children and young slaves is no uncommon part of the

domestic establishment of distinguished families; so that, in the cities, the greater part of the population can read and write—attainments which are also found commonly enough among the sheikhs of tribes in the neighbourhood of the settled districts.

To almost every mosque there is attached a school, where the poorer children may be taught gratuitously; besides which, there are in every great town more or fewer private establishments where the children of the middle classes are received. The education is of a limited kind, comprising little more than reading, writing, the simple rules of arithmetic, and the doctrines of the Mohammedan religion. School-houses, like the shops, are open to the street, so that the whole process of education is conducted in public; and to prevent the distraction incident to such a situation, the readers and repeaters speak in the highest possible key, and accompany their delivery with violent gesticulations.

Besides these, there are in many of the greater towns schools of a higher character; colleges, in fact, in which the higher sciences—mathematics, astronomy, astrology, and medicine—are taught. In the Imanat of Nemen (which is but a small part of the district so called) there are two of these colleges. One of the chief studies in them is the ancient Arabic, now a dead language; for their learned men are expected to understand clearly, not only the Koran in its original tongue, but also all the ancient commentators, of whom the number is very considerable. Candidates for offices, civil or ecclesiastical, are said to undergo a very rigorous public examination as to their literary and scientific attainments; but this is mere pretence, the most illiterate persons being frequently appointed to the highest posts, while the best instructed get a precarious living as scribes, teachers, and public reciters or poets. Hence the wish to acquire a high degree of scholastic knowledge is very weak in the majority of Arabs; and the profession of teacher is far from respectable or lucrative. In many of the towns, the public schools are falling to decay; and those qualified to conduct them prefer wandering over the country like the bards and troubadours of the middle ages, as poets and orators; in which characters, as the reciters or singers of the glories of the nation, they are welcomed and rewarded alike by the sheriffs and sheikhs. There is no public provision whatever for female education; and, among the Bedouins, whole tribes can neither read nor write. A very great obstacle to the advancement of education in Arabia is, the prejudice of the natives against printing. From the nature of the Arabic characters, interlacing each other, and frequently placed vertically, they appear handsome, when well written, than when printed. There was not, a few years ago, and perhaps there is not at present, a single printing-press in the country. (Niebuhr, par. i. pp. 91-96; par. ii. p. 188; Ali Bey, ii. 100; Burckhardt's Notes on Bed., 42, et seq.)

Political Divisions.—*Sources of Revenue.*—Without reckoning the Bedouin tribes, the number of which can hardly be ascertained, the settled parts of Arabia are divided into a great many independent governments: hence states, also, not unfrequently spring up. The political divisions of this country are therefore very uncertain, but at present they may be regarded as consisting of—1st. Fourteen or fifteen states, upon the SSW. coasts; 2nd. A much greater number upon the shores of the Persian Gulf; 3rd. The half-settled Bedouin tribes on the N. part of that Gulf; 4th. The dominions of the Wahabee chief, Abdallah, in

Nedjed; 5th. The Hedjaz and Bahr-el-tour-Sinai, on the W. and NW. of all these. The last are the only parts that own a foreign master. The descendants of Mohammed continued to reign in the Hedjaz from his time down to a late epoch; acknowledging, however, the supremacy, first of the court of Bagdad, and afterwards of the Turkish Sultan, as head of the Mohammedan faith; ministers of the paramount power residing at the sanctuary in the holy cities. While the Turkish government retained its strength, this connection was acknowledged and respected in the Hedjaz; but in the latter part of last century, the sheriffs renounced their nominal allegiance, attacked the Turkish pachas, and finally expelled them. Scarcely, however, was this effected, when the Wahabees subdued the whole of the Holy Land, and held it till 1818-14; when Mehemet Ali, Pacha of Egypt, nominally restored the Holy Cities to the protection of the Porte, but virtually made himself master of the Hedjaz; which he has since retained, and governed at discretion. The Desert of Sinai has always belonged, more or less, to Egypt. (Burckhardt's Travels, *passim*; Notes on Wahabees, 321-420; Lord Valentia, iii. 325-327.)

Taxes, in the settled portions of Arabia are pretty uniform. A tenth of the productions of the land is paid to the sovereign, and this not unfrequently in kind. (Fraser, p. 15.) In Yemen, however, this tax appears to be compounded for by the payment of a fixed sum annually (Niebuhr, par. ii. p. 183); and with regard to the town population, this method must necessarily be general. The tithe upon land is the only legal fixed impost which the subjects of the native Arab princes are called upon to pay. But a far more productive source of revenue is found in the customs and duties upon merchandise. The Iman of Muscat lays $\frac{1}{4}$ per cent. upon all goods passing up the Persian Gulf, in Arab bottoms; and this small duty is so productive that it yields from 110,000 to 160,000 dollars annually. (Fraser, p. 16.) In Yemen, the Iman levies 8 per cent. upon the coffee carried from his dominions beyond the Straits of *Bab-el-Mandeb*, and 7 per cent. upon all that is sent up the Red Sea; and the Sultan Sheriff of Mecca—or rather his present master, Mehemet Ali—takes 6 per cent. more in the port of Djidda. (Lord Valentia, ii. 368, 369.) The large quantities of goods that are constantly passing from India, Abyssinia, Egypt, Syria, &c., to all the trading towns of Arabia, have also their stated rates of duties; and the income derived from them is so great, that Mehemet Ali cheaply purchased his popularity in his new dominions by foregoing the settled tithe which had formerly been paid in them. One of his first acts was a declaration that the inhabitants of the Hedjaz should be wholly free from taxes. (Burckhardt's Notes on Bed., p. 806.) The city of Medina was said to be impost free, even before this period. (Ali Bey, ii. 127.)

Certain articles of commerce are monopolies in the hands of the governments; as salt in the Hedjaz, and the same article and sulphur, in Oman. (Burckhardt's Travels, i. p. 65; Fraser, 16.) Besides which, the sovereign is frequently possessed of large landed property in private right, which he lets out precisely like any other landlord; and in certain cases, as in those of the Imaams of Muscat and Yemen, he is also the most considerable merchant in his own dominions. (Niebuhr, par. ii. pp. 182-184; Fraser, 16.)

These are all legitimate sources of revenue; but the evil in this and all other Mohammedan countries is, that the governments, being despotic, prac-

tise and tolerate all sorts of extortion. Before the conquest of the Hedjaz by the Egyptians, it was customary for the sultan sheriff of Mecca to fill the prisons with persons upon charges of disaffection to his person, that they might purchase their lives and liberties by large fines. (Burckhardt's Travels, i. p. 416.) In Yemen the dolas receive the taxes and customs of the towns, pay the troops, the judges, and other public functionaries, and transmit the balance to Sanaa, the seat of government. In this arrangement, the iman squeezes all he can from the dola; and the latter, whose nominal income is very trifling, resorts to any means, however infamous, of realising a large income for himself. The chief sufferers in these transactions are the Indian, and other foreign merchants. The collection of the customs, too, is attended with considerable fraud; and it is in the power of the officer to favour his friends, and oppress strangers, without incurring any responsibility. These abuses have, however, been considerably modified in the Hedjaz since the establishment of the Egyptian power. (Lord Valentia, iii. p. 325; Burckhardt's Travels, i. pp. 89, 417.)

Area and Population.—Arabia has been supposed to contain from 12,000,000 to 14,000,000 inhab., though this is probably beyond the mark. The nomadic habits of the greater part of its population, and the number of petty states into which the settled pop. is divided, and the little that is known with respect to most of them, renders it impossible to assign either their limits or their population. According to Balbi, the iman of Yemen, or Yemen Proper, and the iman of Muscat, on the coast of Omar, have respectively—

IMANAT OF YEMEN.	IMANAT OF MUSCAT.
Superficial extent, 55,000 sq. m.	Superficial extent, 52,000 sq. m.
Pop., 2,500,000.	Pop., 1,600,000.
Revenue, 485,000 <i>l.</i> sterl.	Revenue, 165,000 <i>l.</i> sterl.
Army 5,000 men.	Army, 1,000 men.
	Navy, 1 ship, 3 frigates, 30 inferior vessels.
Density of pop., 47 per sq. m.	Density of pop., 31 per sq. m.

The Hedjaz has been very well surveyed, especially by Ali Bey and Burckhardt, but its varying population, owing to the influx and efflux of pilgrims, together with the crowd of traders who are constantly passing between its shores and distant countries, renders it difficult, if not impossible, to assign its real numbers with any tolerable accuracy. Probably, however, it is more densely peopled than either Yemen or Muscat.

The states of Yemen, as enumerated by Niebuhr, are the following:—

- | | |
|---------------------|--------------------|
| 1. Yemen Proper. | 8. Sahan. |
| 2. Aden. | 9. Nedjireh. |
| 3. Kankeban. | 10. Kachran. |
| 4. Haachid-u-Bekel. | 11. Dajof. |
| 5. Abu-Arish. | 12. South Khanlan. |
| 6. Beled-el-Koball. | 13. Nehm. |
| 7. North Khanlan. | 14. Jaffa. |

There are, also, a great many little states upon the Persian Gulf; and Hadramaut consists of insignificant sovereignties, mostly of no greater extent than a mile or two round the town where the chief resides. (Niebuhr, par. ii. pp. 160-245, 267-292, &c.)

ARABKIR, a town of Asiatic Turkey, pachalik of Sivar, cap. sanjack, 7 m. N. Euphrates, and 60 m. NNE. Malattia, lat. 39° 5' N., long. 39° E. Estim. pop. 25,000. The town is well built, and the country round is exceedingly fertile.

ARACAN, a country of Asia, called by the natives *Rakkhaing*, extending along the W. coast of the great E. peninsula of S. Asia, acquired from the Birmanese, by the British, in 1824. It lies be-

tween 15° 53' (Cape Legrais) and 21° 30' N. lat., and 92° 20' and 94° 14' E. long.; having N. the r. Nauf, which separates it from Chittagong, E. the Yeomandong mountains, dividing it from the Birmeese dominions, and W. the Indian Ocean; the two latter boundaries meeting at an acute angle at Cape Negrais, its S. extremity: length, N. to S., about 500 m.; breadth, at its N. end, 90 m.; but thence southwards continually decreasing; area, 16,250 sq. geog. m. (Pemberton); pop. said to be about 280,000 only, whereas, in 1795, it was estimated, but probably much beyond the mark, at 2,600,000. (Pemberton's Report on the E. Frontier of British India.)

The Yeomandong, or Anoo-pectoo-moo mountains, are a branch from those that bound S. the Vale of Assam; and form the E. boundary of both Aracan and Chittagong. Their heights vary from 2,000 to 8,000 ft.; Table Mountain, in 21° N. lat. and 93° E. long., is 8,480 ft. above the level of the sea. Near lat. 20° they take a sudden turn E. for about a degree; but in general their direction is N. to S.; they are covered with forests, and have numerous passes, the chief being those of Khyounzah and Goa in the Birmeese, and Tongo, Talak, and Aeng, in the British dominions. They are, in almost every case, mere narrow footpaths. (Ritter, Erdkunde, vol. i. p. 308.)

The country, generally, is diversified with hill and dale, but on the N. border and the sea-shore there are low and marshy tracts. The rivers run mostly in a SW. direction, and are frequently navigable for trading vessels of some magnitude; the largest is the Aracan (properly Kuladyne), which rises in the Birmeese dominions, near 28° N. lat., and discharges itself in 20° 15' by several mouths; on one of its minor branches is situated the town of Aracan, accessible to vessels of 250 tons burthen. The other principal streams are the Nauf, Aeng, Miou, and Sandoway rivers, all in some degree navigable.

The coast, in the central part of Aracan especially, contains many good harbours, is much indented by creeks, and studded with islands and rocks, which render the mouth of the Aracan river somewhat dangerous to approach in the SW. monsoon: during the rest of the year, however, the water is smooth, and there are good anchorages all along the coast, in from 6 to 20 fathoms, with a muddy bottom.

The principal islands are Cheduba, Ramree, and Akyab, between the Rivers Kuladyne and Mion. They are usually separated from the mainland by narrow channels, and partake of the same natural aspect.

The climate is decidedly unhealthy, except in a few spots, as Kyouk-Phyoo, on the N. side of Ramree, and especially hostile to Europeans, who are attacked by intermittent fevers, and other effects of malaria. During the Birmeese war the troops died in great numbers from these causes. The country is inundated by heavy rains during the SW. monsoon, which begins in May and ends in October.

The abundance of forests which cover the mountains have hitherto been insurmountable obstacles towards any knowledge of their geology. The primitive rocks that have been seen are mostly slate. The lower hills consist chiefly of sandstone, with a stiff clay occasionally intermixed; on every part of the coast coral and shell-lime are abundant. A low alluvial soil extends over the whole of the country from the foot of the mountains to the sea.

Little systematic information has been collected as to the products of the country. Salt is largely produced in the creeks. Gold and silver are said to be met with; jungles of mangrove crowd the

banks of the rivers; firs are common N. of the Aracan river; teak, bamboo, red jarul, toon, &c., are found in the forests, and since the British occupation have been used for ship-building; the sugar-cane, cocoa, palm, indigo, cotton, rice, red pepper, cucumber, melon, plantain, mango, jacko, orange and other fruits, are indigenous: elephants, cattle, birds of many kinds, fish, silkworms, and bees are found in great plenty.

The inhab. are 1-10th Birmeese, 8-10ths Mohammedans and Indians, and the remainder *Yekia* or *Yikein*, as they call themselves, the Mughs of the Europeans. The latter are of middle height, with a broad face, high and prominent cheek-bones, the nose flat, and the eyes like those of the Chinese: they are cunning, and addicted to stealing, but not to falsehood. Their language and religion resemble those of the Birmeese; the latter, however (that of Boodh), they do not adhere to very strictly, since they do not abstain from animal food. The Aracanees are by no means uneducated; almost all of them can read and write; the latter they practise with a chalk pencil on a paper made from the bark of a tree: their records are kept on palm-leaf, lacquered in japan or red upon a gilt ground. The people are fond of finery; the dress of the women is a red binder wrapt closely round them, over this a robe reaching to the knee, and the petticoat fastened loosely on one side all down, so that in walking the whole of one limb is exposed. Women are not kept secluded, but enjoy as much liberty as the other sex. Slavery in all its forms is tolerated. Marriages are arranged by the parents of the parties; solemnised by feasts, and ratified by the married couple eating out of one dish. If they separate at a future time at the wish of the husband, he must take upon himself all his wife's debts; if such a determination originate with the latter, she takes them upon herself, but can demand 25 rupees from her husband. If a man be in want of money, he may pawn his wife; but if she become pregnant in consequence, he can claim her again, and the contract to pay becomes null and void. The dead are either buried or burned.

This country has been very greatly improved since it came into the possession of the British, previously to which it was in the worst possible state. The bands of robbers by which it was infested have been extirpated; and the habits of the bulk of the people materially improved. The introduction of tranquillity and commerce has awakened a spirit of industry, and rendered the people cultivators, salt-manufacturers, and traders. Akyab is daily becoming of more and more importance.

Before 1783, Aracan was independent, though often ravaged by the Moghuls and Peguans: in that year it was conquered by the Birmeese, and governed by their viceroys; whose oppressions depopulated the country, causing many of the inhabitants to fly to Chittagong and Tipperah, where they settled; and others to become jungle-robbers. A revolt broke out in 1811, and the violation of the British frontier by the Birmeese, both then and subsequently, was the cause of the Birmeese war of 1824; which ended in the cession of Aracan to the British.

ARACAN, a town and cap. of the above prov., on an inferior branch of the Kuladyne river, which is here crossed by several lofty wooden bridges, 50 m. N.E. Akyab, lat. 20° 44' N., long. 93° 26' E. Estim. pop. 10,000. The town is in the form of an irregular square, walled on all sides except the N.E., where it touches a shallow lake. As a fortress, however, it is worthless, being commanded by various hills in the neighbourhood. S. of the principal street which runs E. and W. are the ruins

of an ancient palace and fort, the latter surrounded by a triple enclosure of stone patched up with brick. There are many pagodas, both in the town and on the heights around it. Next to Akyab, it has the best market in the prov. for British manufactures and the silks of Pegu, and its river is navigable for boats at high tide; but its consequence has been gradually diminishing since Akyab began to rise into importance. Aracan was taken in 1783 by the Birmese, who captured much booty, including a large brazen image of Guadma, held in the highest veneration, and other idols.

ARAD, a town of the Austrian empire, on both sides of the Maros; that part which is on the N. bank, or Old Arad, being in Hungary, and the other, or New Arad, in the Bannat, 27 m. N. Temeswar, lat. $46^{\circ} 9' 56''$ N., long. $21^{\circ} 18' 8''$ E. Pop. of both parts, 80,959 in 1858. New Arad is strongly fortified; and Old Arad is the residence of a Greek bishop. The most opulent inhabitants are the Jews, who are very numerous. The town is the entrepôt of the products of a large tract of country, which are here embarked on the Maros, and sent by the river to the Danube, and thence to Germany, Hungary, and the Black Sea. Tobacco is manufactured, there is a large trade in corn, and the town is the place of the greatest cattle market in Hungary.

ARAFAT (MOUNT), a hill of Arabia, 15 m. SE. of Mecca, consisting of a granite rock about 150 ft. high, a principal object of the Mohammedan pilgrimages to that city.

ARAGON, one of the ancient divisions of Spain, formerly a separate kingdom, comprising the provs. of Zaragoza, Huesca, and Teruel, lying between 40° and $42^{\circ} 55'$ N. lat., and 46° E. and $2^{\circ} 7'$ W. long., having N. the Pyrenees, which divide it from France; E., Catalonia; S., Valencia; and W., Navarre and Castile; length, N. to S., 215 m.; breadth, 65 to 135 m.; area, 14,692 sq. m.; pop. 880,643 in 1857. It is a basin everywhere surrounded, except on the E., by mountain ranges; on the N. offsets from the Pyrenees extend into the prov. as far S. as lat. $42^{\circ} 10'$, enclosing many picturesque and fertile valleys; the Sierras Moncayo Cuenca, Molina, and Albarracin separate it from Castile, and those of Morella from Valencia. Another distinct chain runs parallel to the latter through the S. part of Aragon, from NW. to SE.: between the Sierra and this chain is the valley of the Xiloca; and between this latter chain and the Pyrenees is the extensive plain intersected by the Ebro. This, which is not only the largest of the Aragonese rivers, but the largest river which has its embouchure on the east coast of Spain, runs through the prov. in a S. easterly direction, dividing it into two nearly equal parts. Exclusive of the Ebro, there are a great number of other rivers, mostly its affluents, having their sources in the mountain ranges that bound on either side the central plain; as the Gallego, Cinca, and Segre, from the N., the Xiloca, Guerva, Aguas, S. Martin, Guadaloupe, and Alguas, from the S.: the Tagus and the Guadalaviar have, also, their origin in this region. Salt is everywhere abundant, and gold, silver, copper, iron, lead, nitre, alum, &c., are met with, but the mines are mostly neglected. The mine of rock salt at Remolinos, near Alagon, is, however, extensively wrought, furnishing supplies not only for the prov., but also for Catalonia and other parts of the kingdom. Climate temperate and warm in the valleys and plains, but on the Pyrenees the snow is often found 5 or 6 ft. deep in June, and violent storms occur in winter. The country is, however, universally healthy. The soil of the plains is, in general, fertile, and well adapted to the growth of most products of tem-

perate climates. Though agriculture be very defective, more corn and wine are produced than are required for home consumption; and there are also large supplies of fine fruits, with legumes, flax, hemp, oil, saffron, liquorice, madder, esparto, and barilla. Horned cattle are scarce. Wolves and bears are met with in the mountainous districts; game is plentiful, and the rivers abound with excellent fish, especially eels and trout. The manufactures are confined to common woollen and other cloths, cordage, and hempen articles, gunpowder, with soap, vinegar, brandy, paper, hats, earthenware, and leather. The manufacture of silk in the capital and other towns has greatly diminished. Aragon is divided into thirteen districts or *gobiernos*: its chief cities are Zaragoza, Huesca, Calatayud, and Teruel. The first is an archbishopric: there are six bishoprics and two universities. Several roads cross the prov., passing to all the great towns; and the Imperial canal, from Tudela to Zaragoza, 10 ft. in depth and 70 ft. wide, commenced in 1529 by Charles V., and completed to its present extent in 1772, serves the double purpose of promoting trade and navigation. Several railways are also constructed through the province; among them, the Madrid, Saragossa, and Alicante; the Saragossa and Barcelona; and the Saragossa and Pampeluna lines. The Aragonese are strong, and well-built; not so active as the Catalonians, but industrious, brave, and honest. They are intelligent, and desirous of knowledge, but proud, sullen, and extremely opposed to foreign interference with their government. The original harsh Aragonese dialect has now become intermixed with the Castilian. The male peasantry wear a waistcoat and a round jacket over it, drawn together by a thong, and a large round hat, or sometimes two, to work in during the heats of summer. The dress of the women is odd and grotesque; it consists partly of two woollen corsets, and three or four thick petticoats one over another, the whole weighing a quarter of a cwt. Under the Romans Aragon was included in Celtiberia; in A.D. 470 it was overrun by the Goths, and in 714 by the Moors. After the expulsion of the latter, it was governed by its own kings till the marriage of Ferdinand with Isabella of Castile in the fourteenth century.

The gov. of Aragon, previously to the junction of its crown with that of Castile, and for some time afterwards, though monarchical in form, was in principle essentially republican. The kings, who were long elective, retained little more than the shadow of power; it being really vested in the Cortes or parliament. This supreme assembly was composed of four different *arms* or members; the nobility of the first rank, the equestrian order of second rank, the representatives of cities and towns, and the ecclesiastics. No law could pass without the assent of every arm; and without permission of the Cortes, no tax could be imposed, no war declared, no peace concluded, nor money coined or altered. The power of reviewing the proceedings of the inferior courts, the privilege of inspecting every department of administration, and the right of redressing all grievances, belonged to the cortes; to which, however, those aggrieved did not address themselves in the humble tone of supplicants, but demanded its interference as due to them as freemen. This sovereign court was held during several centuries every year; but from the beginning of the fourteenth century was convoked only once in two years; the session continued forty days, and the king could neither prorogue nor dissolve the assembly, after it had met, without its own consent.

Not satisfied with having erected such formidable barriers against the encroachments of the

royal prerogative the Aragonese, by an institution peculiar to themselves, elected a *justiza*, or supreme judge, as the protector of the people and the controller of the prince. The person of the *justiza* was sacred, and his power and jurisdiction almost unbounded; he was the supreme interpreter of the laws, and not only inferior judges, but the kings themselves were bound to consult him in every difficult case, and to receive his responses with implicit deference. An appeal lay to him from the royal as well as the baronial judges, and even when no appeal was made, he could interpose by his own authority, prohibit the ordinary judge from proceeding, take immediate cognisance of the cause himself, and remove the party accused to the prison of the *manifestacion*, to which no person had access but by his permission. His power was exerted with no less vigour and effect in superintending the administration of government, than in regulating the course of justice. It was the prerogative of the *justiza* to inspect the conduct of the king. He reviewed all the royal proclamations and patents, and declared whether they were agreeable to law, and ought to be carried into execution. He, by his sole authority, could exclude any of the king's ministers from the conduct of affairs, and call them to answer for their mal-administration. He himself was accountable to the Cortes only for the manner in which he discharged the duties of his high office, and performed functions of the greatest importance that could be committed to a subject. The Aragonese were so solicitous that their monarchs should know and feel their dependence on their subjects, that even in swearing allegiance to their sovereign, the *justiza* thus addressed him in their name, 'We, who are each of us as good, and who are altogether more powerful than you, promise obedience to your government, if you maintain our rights and liberties, but not otherwise.' Conformably to this oath it was expressly declared in their constitution, that if the king should violate his compact with them, it was lawful for the Aragonese to disclaim him, and elect another sovereign, even though a heathen, in his room.

Aragon, while a separate kingdom, was the most powerful of the peninsular states. It comprised, exclusive of Aragon Proper, Navarre, Catalonia, Valencia, the Balearic Isles, and Sardinia. The marriage of Ferdinand with the heiress of Castile, the conquest of Granada by their united forces, with the possessions they inherited or acquired in other parts of Europe and in the New World, by giving the sovereigns extrinsic, and as it were foreign resources, rendered them in a great measure independent of the supplies voted by the Cortes, at the same time that it enabled them gradually to subvert their authority. The establishment of the Inquisition was also a great blow to the liberal institutions of Aragon and other parts of the Peninsula, which were finally suppressed during the reign of the bloody and tyrannical bigot Philip II.

ARAGONA, a town of Sicily, Val di Girgenti, 7 m. N. Girgenti, on a hill. Pop. 10,440 in 1861. The town is ill-built, and dirty; but is worthy of notice for its castle, its antiquities, and for having in its vicinity the mud volcano of Maccaluba. This consists of numerous little hillocks, with craters on a kind of truncated cone of argillaceous barren soil, $\frac{1}{2}$ m. in circuit, elevated about 200 ft. above the surrounding arid plain. These craters are continually in action, making a hollow rumbling noise, and throwing up a fine cold mud, mixed with water, a little petroleum and salt, and occasionally bubbles of air with a sulphurous taint. Sometimes reports like the discharge of artillery

are heard, and slight local earthquakes, till an eruption takes place by the ejection of mud and stones to the height of from 80 to 60 ft., the ordinary height of the spouts being only from a few inches to 2 or 3 ft. (For a further account of this singular phenomenon, see Smyth's Sicily, p. 218.)

ARACHE (EL). See **LARACHE**.

ARAL (SEA OF), an inland sea or lake of Asia, in independent Tartary, between 42° and 46° 12' N. lat., and 56° and 61° 15' E. long., being about 800 m. in length from SW. to NE., and from about 100 to nearly 250 m. in breadth; so that, with the exception of the Caspian, it is by far the most extensive inland sea of the Old World. At its SW. end it has a prolongation called Aibueorakoe lake, 80 m. long, and about 20 broad. It has a great number of islands, particularly towards the S., and is generally so shallow, that it can be safely navigated only by flat-bottomed boats. Its waters are salt, and its coasts generally low and sandy, the country round consisting (mostly of vast arid steppes. It is well supplied with fish, of which sturgeon are the most valuable; seals are also met with. The Sea of Aral receives, besides smaller streams, the waters of two great rivers, the Sir-Daria or Sihoun (the *Jaxartes* of the ancients), and the Amoo-Daria or Jihoun (the *Oxus* of the ancients). But notwithstanding it has no outlet, the prevalent opinion is, that the supply of water brought to it, and also to the Caspian Sea, from which it is separated by the desert plateau of Oust-Oust, is unequal to what is carried off by evaporation, and that their level and surface are being gradually diminished. It is 117 ft. above the Caspian and 88 ft. above the Black Sea. The extraordinary difference between the level of the Caspian and the Sea of Aral, and the level of the Black Sea (see **CASPIAN SEA**), as well as the nature of the soil in their vicinity, the traditional and historical statements with respect to their boundaries, and the opinions of the most eminent naturalists, all lead to the belief that they once extended over a much larger tract of country, and most probably made part of one great inland sea. (For further details, see **CASPIAN SEA**.)

ARAMON, a town of France, dep. Gard, cap. cant. on the Rhone, 16 m. E. Nismes. Pop. 2,393 in 1861. Manufs. of saltpetre.

ARANDA DU DUERO, a town of Spain, on the Duero, 48 m. S. Burgos. Population. 4,122 in 1857.

ARANJUEZ. (*Ara Jovia*). A town of Spain, new Castile, in a fertile and well-watered valley on the left bank of the Tagus, immediately above where it is joined by the Xarama, 28 m. SSE. Madrid, and 22 m. ENE. Toledo, on the railway from Madrid to Alicante. Pop. 10,727 in 1857. The town derives celebrity from its royal palace, commenced by Philip II., and enlarged and embellished by several of his successors, particularly Charles IV., who added the fine gardens and groves along the banks of the Tagus, and a small but elegant pleasure house, the *Casa del Labrador*. The palace is a handsome square building, with a fine marble staircase, containing many fine sculptures, and (as well as the church and monasteries of the town) paintings of the Spanish and Italian masters, especially of Raphael Mengs. The town is built after the Dutch model; having broad and well-paved streets, houses uniform and painted, fine promenades, and a square adorned with many handsome edifices. The court formerly used to occupy this palace from Easter till the end of June; in July and August the situation is accounted unhealthy.

ARARAT (Turkish *Aghur Dag*h, Armenian

Macia), a famous mountain of Armenia, on the confines of the Russian, Turkish, and Persian empires, its principal summit being about 85 m. S. Erivan, lat. $39^{\circ} 30' N.$, long. $44^{\circ} 35' E.$ Its base E. and NE. is washed by the Araxes, from the low plain of which it rises most majestically to an immense height. It forms the termination in this direction of a range of mountains connected with the Caucasian chain; but these, though elevated, seem in comparison with Ararat so low, as to strengthen the impression of sublimity and greatness made by contemplating it singly from the plains to the E. It consists of two enormous conical masses, one much higher than the other, but the lowest ascending far within the line of perpetual congelation. Repeated efforts had been made at different times to reach its summit, but this Herculean task was not effected till 1880, when Professor Parrot, of Dorpat, accomplished, by dint of extraordinary perseverance and energy, what had previously been reckoned all but impossible. He determined the altitude of the highest peak to be 16,200 French or 17,230 Eng. ft. above the level of the sea, being about 4,760 ft. higher than Mont Blanc. The summit is described as a circular plain of limited dimensions, united by a gentle descent to the less elevated peak towards the E. The whole of the upper region of the mountain, from the height of 12,750 ft., is covered with perpetual snow and ice; and not unfrequently avalanches precipitate themselves down its sides with tremendous force and fury. The mountain was again ascended in 1880, by Colonel Khoeleko and a party of sixty, engaged in the Russian triangulation of Transcaucasia.

On one of the sides of the principal cone is a chasm or cleft of prodigious depth, having much the appearance of the crater of a volcano. Tournéfort says, that its precipices are blackened as if by smoke, but that nothing issues from it except torrents of muddy water; but the mountain presents many appearances of volcanic action, and Dr. Reinegg asserts that he has seen fire and smoke issue from this chasm for three days together.

Ararat is not only an object of superior interest from its mass and height, but still more from the association with which it is connected. It is believed to be the Ararat of Scripture, on whose summit the ark rested. (Genesis, viii. 4.) And certainly it would be difficult anywhere to find a mountain that seems better entitled to the honour of serving as a stepping stone '*à Nos pour descendre du ciel en terre avec le reste de toutes les créatures.*' (Tournéfort, Voyage du Levant, ii. p. 860.)

ARARAT, a district of Victoria colony, Australia. Pop. 49,645 in 1859, of whom 3,800 were Chinese. Ararat is one of the important gold-mining districts of the colony.

ARAS (an. *Araxes*), a river of Asia, which has its source in the mountain land of Armenia, 20 m. S. Erzerum. It flows E. past the N. base of Mount Ararat, then SE. to Çürdaht, and NE. to Djirat, where it falls into the Kur, 50 m. in a direct line from the embouchure of the latter in the Caspian Sea. Its entire course may be estimated at 420 m. Notwithstanding its rapid current, it is in many places fordable. It is described by Ussher as a long, wide, and shallow stream, a good deal of its water having been diverted for purposes of irrigation. (Ussher, From London to Persepolis. 1865.)

ARAUCANIA, an extensive territory in South America, comprising the country lying between 37° and $39^{\circ} 50' S.$ lat., and 70° and $75^{\circ} 20' W.$ long. On the N. it is bounded by the River Biobio; on the S. by the Valdivia or Calacalla;

on the E. by the Andes; and on the W. by the Pacific Ocean.

The Araucanians divide their country into four Butolmapus or tetrarchies, viz. :—

1. Langenmapu, i. e. the maritime country.
2. Lelpunmapu, i. e. the plain country.
3. Inapiremapu, i. e. the country at the foot of the Andes.
4. Piremapu, i. e. the Andes country.

Each tetrarchy is governed by a Toqui or tetrarch, and is subdivided into nine Allaregues or provinces, at the head of each of which is an Apo-Ulmen. Each prov. is again subdivided into nine Regues or districts, severally presided over by an Ulmen. This division existed before the arrival of the Spaniards, and is supposed to be of great antiquity.

The dignity of Apo-Ulmen and Ulmen are hereditary in the male line. In case, however, of failure, a successor is chosen by the people, and their choice is afterwards confirmed by the Toqui or generalissimo. The succession is thenceforward perpetuated in the family of the individual newly chosen. The ensign of an Apo-Ulmen is a staff, with a silver globe at one end and a silver ring in the centre. That of an Ulmen resembles the foregoing, with the exception only of the ring, which is peculiar to the former. The ensign of the Toqui's authority is a battle-axe.

The form of government comprises a mixture of democracy and aristocracy.

The natives proper of Araucania belong to the race of the Moluches, and the name of Araucanians has been given them by the Spaniards. Their range of information is extremely limited, and though Spanish writers affirm that they have some notion of geometry, and are sufficiently acquainted with astronomy to distinguish the stars by particular names, the credibility of their account is much to be questioned.

The industry of the country is confined to a little agriculture. The Araucanians cultivate a few fruits, and make a kind of cider. Their principal wealth consists of their flocks and herds, and they possess a great number of horses, of the Spanish breed, as well as oxen, guanacos, and vicuñas. The oxen and guanacos yield them a plentiful subsistence, and the wool of the vicuñas supplies them with various articles of clothing.

The Araucanians have a sort of criminal code, and the crimes which seem to be regarded as the most heinous by them, are murder, adultery, robbery, and witchcraft. The latter is visited with immediate death. (Wimmer neustes Gemälde von Amerika, vol. iv. p. 312; Wien, 1823.) Their religion consists in the belief of the existence of a Supreme Being, besides that of many lesser deities, and also in the immortality of the soul. (Stein's Handbuch der Geographie, vol. iii. p. 752; Leipzig, 1884.) The Araucanians maintain no standing force, but every male is inured to the use of arms, and being naturally a warlike people, it needs no compulsion to rally them in defence of their country. None of the aboriginal race of S. America have resisted with so much obstinacy and such determined bravery all the attempts of Europeans to reduce them to a state of subjection, and to the present time their efforts have been successful, and they remain independent. They are extremely proud of having maintained their independence, and call themselves the unconquered people. They have derived from the Spaniards the knowledge and the use of cavalry in battle, and their skill in this mode of warfare is scarcely to be surpassed.

The clothing of the men consists of trousers, reaching to the ankle, of woollen stuff and a

smock of the same materials, usually white, over which is thrown a piece of cloth 2 yds. wide, and $\frac{1}{2}$ long, with a hole in the centre for the purpose of admitting the head. This garment is styled a poncho. Their hat is of a conical shape. The dress worn by the women is a long white tunic, and a black upper garment fastened round the hips with a girdle, together with a small mantle called an *ichilla*. The favourite colour is blue, having a greenish hue. The latter wear no head-dress, and go bare-footed. They are fond of displaying a quantity of rings upon their fingers, and ornament their arms and necks with strings of beads. Every woman is obliged to present her husband annually with a poncho of her own making, and daily with a dish cooked by herself. (Wimmer, vol. iv. p. 313.) Both the men and women are exceedingly hardy, and capable of enduring great fatigue. The children go naked till their tenth or eleventh year.

A tribe, called Cunchi, inhabits the country between Valdivia and the Gulf of Guayatica; and another, known by the name of the Hinlichí, that between the Archipelago of Chonos and the Gulf of Penas.

The government of Araucania was republican till the year 1859, when a French gentleman, a barrister named M. De Tonners, who had travelled through the country, gained some adherents, and proclaimed himself sovereign, under the title of King Aurelius Antonius I. To get rid of this ruler, his opponents called in Chilian troops, who defeated the king and made him prisoner in February, 1862; but at the same time annexed Araucania to Chili. 'Aurelius Antonius I.' was liberated soon after, and returned to Paris.

ARAUCO, a town of Chili, cap. prov. and bay of same name, 230 m. SSW. of Valparaiso. Pop. of prov. 43,466 in 1856.

ARBE, or ARBA, a small island in the Gulf of Quarnero in the Adriatic, separated by the narrow channel of Morlacca from the coast of Croatia. Pop. 3,500 in 1857. It produces, corn, figs, and excellent wine; and has salt lakes. Its capital, of the same name, is situated on a bay on its S. coast, has 1,100 inhabitants, and is a bishop's see.

ARBELA, or ARBIL, a town of Turkey in Asia, pachalic Bagdad, between the Greater and Lesser Zab, on the high road from Bagdad to Mosul, lat. $36^{\circ} 11' N.$, long. $44^{\circ} E.$ This was formerly a large city, the cap. of the prov. of Adiabene, and is renowned in history for the final and decisive victory obtained in its vicinity, anno 331 a.c., by Alexander the Great over Darius, which was speedily followed by the death of the latter, and the total subversion of the Persian empire. But, under its present Turkish masters, Arbela has sadly declined from its former greatness, and is now an inconsiderable mud town, with about 3,000 inhabitants. Part of it is built on an artificial mound, 150 ft. in height, formerly surmounted by a castle.

ARBOGA, an inland town of Sweden, prefect. Westeras, on the navigable river Ulvison, which falls into the lake Melar, near the point where the former is joined by the canal of Arboga, proceeding from Lake Hieltmar, 160 m. W. Stockholm. Pop. 3,022 in 1860. It is the entrepôt for the iron, and copper of the surrounding country; has a considerable transit trade, and has been the seat of several diets.

ARBOIS, a town of France, dep. Jura, cap. cant., on the Cuisance, half-way between Salins and Poligny. Pop. 6,672 in 1861. The town is well built, situated in a valley surrounded by hills and vineyards, which produce excellent white wines. It has a royal college and a tribunal of

original jurisdiction, with fabrics of earthenware, rape seed, oil, and paper; tanneries, and flattening mills. Pichegru was a native of this town; and after the Restoration of 1815, a bronze statue was erected to him in one of its squares.

ARCADIA, the classical name of central Peloponnesus, now an incl. nomarchy of mod. Greece, Morea, of which it occupies the high table-land, between lat. $37^{\circ} 15' N.$ and near $38^{\circ} N.$, long. $21^{\circ} 44' E.$ to $22^{\circ} 35' E.$, having N. Achaia, E. Argolis, W. Elis, and S. Messenia and Laconia: length and breadth about 40 m. each. Area, 1,600 sq. m. Pop. 96,546 in 1861. It is intersected by hill-ridges in various directions, and on the N. a lofty mountain range renders its access difficult. It contains several plains of tolerable extent, as that of Tripolizza, 25 m. long, and from 1 to 8 m. broad, with those of Londari, Mantinea, Tegea, &c. Its chief streams are the Roufia (*Alpheus*) the largest river of the Morea, and its tributaries, the Dogana, Ladon, &c.: its lakes are insignificant in size, but the Stympalus, of classic fame, is amongst them. Arcadia has many geographical features in common with Boeotia: it is copiously watered, but its valleys are often quite encaised by hills, and having no good outlet, the waters are but partly carried off by subterranean channels, leaving stagnant marshes, which deteriorate the air. Arcadia, from its elevation, is much colder than the rest of the Morea; its climate is even rigorous. Much of it is uncultivated or given up to pasture, cattle-feeding being by far the most important rural occupation, the Arcadian shepherds roving about with their flocks in families of twelve or fifteen persons, living in tents, and changing their locality as fresh pastures are required. Some of the plains contain many vineyards; that of Hersea was said by Pliny and others to produce a wine that made 'men mad, and women fruitful': a sweetish red wine is still made at that place, with more flavour and body than almost any other in the Morea. The Arcadians are strong and laborious, but all the operations of agriculture devolve upon the women: the men devote themselves to tending cattle, or performing necessary journeys on business. The decline of the culture and population of Arcadia dates from a very remote period. Strabo refers it, or at least the conversion of the corn lands into pasture, to the era of the foundation of Megalopolis, to settle in which city many of the smaller towns and villages were abandoned. Forests, however, have not apparently much increased; and that of Pelagus, in the plain of Pallantium (Tripolizza) has wholly disappeared. Arcadia presents, in many places, most beautiful scenery; as, for instance, the valley of Megalopolis. (See Leake, MOREA.) The plane, fir, chestnut, oak, ilex, wild-pear, lentisk, &c., are the most common trees; deer and game are plentiful; wild boars, wolves, bears, &c., common only in the N. Arcadia, which was formerly divided into four eparchies, is now divided into the depts. of Mantinea and Gortynos: Tripolizza, Londari, Karitena, and Andruzena, are its chief towns. It contains the remains of the cities of Phigaleia, Megalopolis, Pallantium, &c. besides many other interesting ruins.

ARC-EN-BARROIS, a town of France, dep. Haute-Marne, cap. cant. on the Aujon, 13 m. SW. Chaumont. Pop. 1,849 in 1861. There are woollen manufactures.

ARCHANGEL, or ARKHANGHELSK, a government of Russia in Europe, occupying the whole country from the Oural Mountains on the E. to the Grand Duchy of Finland on the W., and from the frontiers of Vologda and Olonetz on the S. to the Arctic Ocean and the White Sea on

the N. It includes, also, Nova Zembla, and some other large islands in the Arctic Sea. The estimates of the area differ considerably, but it is believed, exclusive of the islands, to exceed 250,000 sq. m., or more than double the size of Great Britain and Ireland; incl. islands its area is estimated at 296,067 sq. m. The largest portion by far of this vast territory is condemned to perpetual sterility. The part of it within the Arctic circle consists principally of an almost boundless expanse of sandy and mossy plains, having ice, even in the middle of summer, always a little below the surface. The country on this side the Arctic circle consists, also, of immense plains, partly occupied with forests that cover more than half the entire extent of the prov.; partly, but in a very inferior degree, by low pasture grounds; and partly with lakes, and morasses. Principal towns, Archangel, Onega, Dwina, Mezen, and Petchora. Pop. in 1846, 253,000; in 1858, 274,951. Owing to the severity and variableness of the climate, corn crops cannot be depended upon; and, in consequence, even in the southern districts, where the land is most fertile, they are but little attended to; though considerable quantities of hemp and flax are raised. The principal wealth of the government consists in its immense and apparently inexhaustible forests; but fishing and hunting are the chief employments. The rein-deer is the domestic animal of the Laplanders and Samoyedes, the former occupying the NW. and the latter the NE. parts of the government. Among the tribes now mentioned, dried fish occupies the place of bread; and in the more S. districts, the inner bark of trees, and certain species of moss, are intermixed with meal, or substituted for it in the making of bread. Horses and cattle diminutive, and but little attention is paid to their treatment. The district of Kholmogor, on the Dwina, a little below Archangel, where the pasture is exceedingly good, must, however, be excepted from this remark. A breed of Dutch cattle, imported into this district by Catherine II., and distributed amongst the inhabitants, still preserves its superiority; and the calves of these cattle, being well fed, furnish the delicate white veal so much esteemed at St. Petersburg. (Tooke's Russian Empire, iii. p. 89.) Ship and boat building, and the preparation of pitch and tar, are carried on to a considerable extent. A good deal of coarse linen is made by the peasantry of Archangel, and of the contiguous districts; and they also manufacture a good deal of cordage and immense quantities of mats, with leather, tallow, turpentine, potash, &c. The population, though originally Finnish, is now essentially Russian. The Samoyedes, who are almost at the bottom of the scale of civilisation, though spread over an immense surface, do not exceed 6,000 or 7,000 individuals. They are exempted from the Obrock and from compulsory military service, paying only the *iseak* or tribute imposed on Asiatics. The Laplanders, who are a little more advanced, do not amount to 2,000 individuals. They are subject to the capitation tax.

ARCHANGEL, the cap. of the above government, and the principal city and port of trade in the N. of Russia, on the right bank of the Dwina, about 84 m. above where it falls into the White Sea; lat. 64° 32' 8" N., long. 40° 33' E. Pop. 28,981 in 1858. The town is almost entirely built of wood, and has been materially improved since the fire of 1798. The principal building is the Gostinoi dwor, or bazaar, for the exhibition and sale of merchandise, and its protection against fire. It is of stone, and of great extent. The marine hospital also deserves to be noticed. Arch-

angel is the residence of a general and civil governor, and of an archbishop. There is an ecclesiastical seminary with nine professors, a gymnasium, a school of commerce and navigation, and some other educational establishments. Notwithstanding its high N. latitude, and the lengthened period during which it is annually inaccessible, it has a pretty extensive commerce. It owes this to its situation on the Dwina, one of the most important rivers of Russia, and which has been united by canals with the Wolga on the one hand, and the Neva on the other. The greater part of the articles of export are brought by this channel, mostly from a considerable distance, some even from Siberia. The principal are corn, flax and hemp, timber, iron, linseed; vast quantities of mats, potash, tallow, tar, pitch, train-oil, canvass and coarse linen, furs, cordage, and deals. The exports vary materially in different years, principally according to the demand for corn in this and other foreign countries. During the five years preceding 1864 they amounted to—1859, 1,297,879*l*.; 1860, 906,851*l*.; 1861, 1,157,345*l*.; 1862, 1,128,965*l*.; and 1863, 796,898*l*.; the great falling off in the latter year, however, arising from the failure of the grain and linseed crops in the districts which supply the port. About three-fourths of the exports are to Great Britain. The value of the imports, which consist principally of colonial produce, spices, salt, woollens, cottons, hardware, and fish, is always much less than that of the exports. The figures for the same years as the exports above given were—67,771*l*, 67,709*l*, 61,180*l*, 69,508*l*, and 80,480*l*, about one-fourth of the amount being from Great Britain. The article most largely imported is fish, the value of which in 1863 was 41,928*l*. Of late years there has been a considerable importation of tea from England, competing with the teas brought overland from Kiachta. The amount in 1863 was 5,805*l*. The exports, being bulky articles, employ a great number of ships, varying from 300 to 500. The number of vessels which cleared in 1863 was 354; tonnage 68,870; of which 187 vessels, and 35,989 tons, were British. There were, besides, 181 vessels employed in the coasting trade with Norwegian Finmark. The harbour is at the Island of Solembolok, about 1 m. below the town; and the ships are principally loaded direct from the prams, rafts, &c., that bring the produce down the river. There is a bar at the mouth of the river, with from 18 to 14½ ft. water; and vessels drawing more than this must, of course, partly load and unload by means of lighters in the roads. There is a government dockyard, with slips for building ships, about 12 miles below the town, where also are situated warehouses belonging to merchants of the city. A fishing company was established here in 1803. Exclusive of the ship and boat building, and the manufacture of cordage and canvass referred to in the preceding article, there is here a sugar refinery and several breweries.

The entrance to the Dwina, where Archangel was soon after built, was discovered by the famous Richard Chancellour, the companion of Sir Hugh Willoughby in his voyage of discovery, in 1554; and from that period down to the foundation of Petersburg, it was the only port in the empire accessible to foreigners. (Commercial Reports.)

ARCHIDONA, a town of Spain, 84 m. N. Malaga. Pop. 7,611 in 1857.

ARCHIPELAGO, a term applied to such tracts of sea as are interspersed with numerous and contiguous islands; but it is especially applied to the islands in the *Ægean* Sea, or that part of the Mediterranean lying between Asia Minor and Greece.

ARCHIPELAGO (EASTERN). This most extensive archipelago comprises a vast number of islands, some of which, as Borneo, Java, Sumatra, Celebes, &c. are of very large dimensions. The islands extend within the tropics between 95° and 135° E. long., and 11° S. and 19° N. lat., having NW. and N. the Chinese Sea; NE. and E. the Pacific; and S. and SW. the Indian Ocean. The archipelago is divided by Mr. Crawford into the following five divisions, each distinguished by peculiarities of situation, climate, and products.

1st Div. From long. 95° to 116°, including Sumatra, Java, Bali, Lombok, Madura, Bangka, Billiton, the Malay peninsula, and the W. and larger portion of Borneo. The soil of this division is good, and suited to the production of most kinds of veg. food. Rice is the chief subsistence of the inhabitants, who are the most civilised of the archipelago.

2d. Div. From long. 116° to 124°, includes Celebes, Sumbawa, Flores, Sandal-wood, Timor, and the E. part of Borneo to 8° N. lat. The soil is inferior to the former; rice is not so abundantly produced, and sago partly supplies its place.

3d. Div. From long. 124° to 180°; lat. 10° S. to 2° N.: includes Ceram, Booro, Gilolo, Timor-lant, the Arooe I. and Papua. The climate differs from that of most of the other div.: the E. monsoon is rainy and boisterous, the W. dry and temperate; the plants and animals of the 1st and 2nd division disappear, and others take their place, peculiar to this region of the world, as the clove, nutmeg, &c. Very little rice is grown; sago forms the chief food: the natives are greatly inferior to those of all the other div. in civilization.

4th Div. From long. 116° to 129°, and lat. 4° to 10° N. includes Mindanao, the Sooloo I., Palawan, and the NE. part of Borneo. Products of all the former div. are found here; but the clove and nutmeg are very inferior. Rice is consumed, but sago is the principal article of food; the natives are above those of the 3rd division in civilization.

5th Div. From 10° to 19° N. lat. includes the remainder of the Philippines, and is the only portion within the limits of the hurricanes. The soil is fertile in rice, tobacco, and the sugar-cane, but not in the pepper of the 1st, nor the fine spices of the 3rd div. The manners, institutions, and language of the inhabitants differ from those of all the other divisions.

Mr. Wallace, in a paper read before the Geographical Society June 8th, 1868 (vol. xxxiii. pp. 217, *et seq.* of Journal) gives a different and more extensive definition of the archipelago. According to his views, the Malay—or, as he should prefer to name it, the Indo-Australian—archipelago, extends from the *Niobar Islands* on the NW. of *St. Christoval*, one of the Solomon Islands on the SE.; that is, between long. 95° and 162° E., and from *Luzon* on the north to *Rotti*, near Timor, on the south. The whole region, including the Malay peninsula, which is almost an island, and from which the archipelago is not physically separated, is of a somewhat triangular form, with an extreme length of about 5,000, and a breadth of rather more than 2,000 English miles, so that it is comparable in its dimensions with the primary divisions of the earth, while its component parts are on an equally extended scale—two of the islands, *Borneo* and *New Guinea*, being the largest on the globe. They are nearly equal in extent, and the only other island which approaches them is Madagascar. Borneo would contain within its vast area the whole of Great Britain and Ireland, with all their islets from

Scilly to Shetland in their true relative positions, and still leave boundless forests stretching out like an ocean beyond them. Then comes Sumatra, about equal to great Britain; after which follow Java, Luzon, and Celebes, either of which may compare in size with Ireland, or one of the larger New Zealand Islands. After these succeed eighteen islands which average as large as Jamaica, more than one hundred about the size of the Isles of Wight and Man, with many thousands of isles and islets below these, and which are practically innumerable. The region deserves to be looked on as a separate continent, possessing its own races of men and its own aspects of nature, altogether cut off from the great continents into which we are accustomed to divide the globe, and quite incapable of being classed with any of them. If Australia be a fifth division of the globe, this great archipelago may be considered a sixth. Mr. Wallace considers that the northern portion of the archipelago, consisting principally of the Islands of Java, Sumatra, and Borneo, must have formed at a comparatively recent date a portion of the continent of Asia, drawing the inference from the general likeness of the *fauna* and *flora* to those of Asia, and the shallowness of the seas dividing the archipelago from that continent, the depth not exceeding 50 fathoms. For similar reasons, Mr. Wallace considers that the southern half of the archipelago formed a portion of the Australian continent. The contrast between the two halves is abruptly exhibited in passing from the Island of Bali to that of Sombok. The strait here is 15 miles wide, so that we may pass in two hours from one great division of the earth to another, differing as essentially in their animal life as Europe does from America. Eastward of the Malay archipelago, a group of islands stretches out into the Pacific Ocean; but these characteristics are distinctively Australian, and they are therefore, not included in the island-continent.

The E. archip. is mountainous, and its principal mountains, which are often isolated, have all a volcanic character. It is very generally covered with deep forests of stupendous trees. The number of grassy plains is very small, and there are no arid sandy deserts. It is distinguished from all other clusters of islands by its periodical winds, and peculiar natural products, one of which, sago, 'is such as man nowhere else subsists upon' as a chief article of food. Gold is found in almost every part, but especially in Borneo and Sumatra, the total yearly produce being estimated at 155,000 oz. Silver is believed to be native, tin is very plentiful in Bangka; and there are also iron and copper; diamonds are found in Borneo; sulphur pretty generally, and salt from springs, especially in Java. Palms, bamboos, and rattans are universal; the most remarkable of these trees is the sago-palm (*Metroxylon sago*), one of the smallest of its tribe, seldom reaching to more than 30 ft. in height, and growing only where the E. is the boisterous monsoon, a region extending W. to Celebes and Borneo, N. to Mindanao, S. to Timor, and E. to Papua; Ceram is its chief seat, and there large forests of it are found. The edible farina is the central pith, which varies considerably in different trees as to the time required for its attaining proper maturity. At the age of perhaps fifteen years the tree is cut down, and may yield 500 or 600 lbs. pith, but the average is about 300 lbs.; this is ground into powder, clarified, and made into cakes kept dry for use: it is eaten by the natives in the form of pottage. Sago grows well only in marshy places: 'a good sago plantation or forest is a bog knee-deep.' A farina of an inferior kind is supplied by the *gomuti* (*Borassus*

gomotus), another palm peculiar to this part of the world, which grows in the E. isl. in the valleys of hilly tracts, and yields also toddy, and a fibrous epidermis used in the cordage of the native shipping. Teak is abundant in Java, and the banana grows commonly in the greatest perfection; the orange and lemon tribe, shaddock, pomegranate, pine-apple, guava, tamarind, jack-fruit, mango, &c. are plentiful; and several fine fruits, as the *champadak*, *mangosteen*, and *durian*, are confined to the archipelago. The latter is esteemed by the natives before all other fruits; it is as large as a pumpkin, its seeds being enveloped in a rich white pulp, the edible portion; and, though repulsive at first by a strong smell, a taste for it once acquired is lasting. The copal tree is found in Palawan, and others yielding resins are plentiful; the palma christi, cocoa-nut, and sesamum yield oil, as well as a large and handsome tree called *kasari*, peculiar to the E. isl., benzoin, catechu, camphor, olibanum, are the gums naturally produced, and the pterocarpus, yielding dragons' blood, grows in Sumatra and Borneo. Ebony, toon, sandal-wood, in Timor and the adjacent isl., sapan-wood, lignum-aloes, &c. are found; and indigo, annatto, safflower, and tumeric in nearly all the isl. The clove and nutmeg flourish in Amboyna and the Moluccas, black pepper in Sumatra, and ginger and cassia pretty generally; cubebs, cajuput (*maleuca cajuputi*), and sassafras in various parts, areca in all, as well as the *auchar* or poison tree: the *chetik*, wrongly called *upas*, is confined to Java. The sugar-cane, cotton, tobacco, capsicums, onions, cucumbers, and the sweet potato in the W. are common articles of culture; many kinds of pulse are grown as articles of food; millet is but seldom cultivated, but maize, which is next in importance here to rice, flourishes everywhere. The natives generally are very fond of flowers; those of the archip. are mostly yellow or red; blue is rare amongst them; lotuses and other aquatic plants are profusely numerous. European flowers and other vegetables transplanted thither, in general soon lose their perfume and excellence; and the same is the case with those from America, which, like the pine-apple, &c., are treated with indifference by the natives. The buffalo and ox, being both of remarkably large and fine breeds, are used in agriculture; elephants are found in the Malay peninsula and Sumatra only.

The argus pheasant and bird of paradise are the most remarkable birds. The latter is exceedingly abundant in Papua, the Arooe, and other E. isl. The edible birds' nests, so much valued by the Chinese, are built in caves, most commonly on the sea-shore, by a species of swallow (*Hirundo esculenta*). Tortoises are numerous in the E.: the shores, especially in the W., profusely abound with fine fish, as the pomfret, calcap, soles, &c.: the whale fishery of the S. seas is reputed worth upwards of 1,000,000*l.* per ann.; sharks, whose fins are important articles of export in China, pearl oysters, cowries, or gigantic cockles, are common; and the *Holothuria*, or sea slug, is fished for on coral reefs from one end of the archipelago to the other. The lac insect exists in most of the forests, especially in Sumatra and the Malay penins.; and bees are very numerous in the E., but they have never been domesticated.

Native Tribes.—The inhab. are of two distinct races, differing widely in conformation; one having a fair or brown complexion, while the other is black. The former inhabit chiefly the W., the latter the whole of the archip., but become more prevalent as we go farther eastward. The fair or brown tribes are short, squat, and robust,

5 ft. 2 inches being the greatest height commonly of the men, and 4 ft. 11 in. of the women. Their lower limbs are large and heavy, but not ill-formed, the bosoms of the women rather small than large in proportion to their size, and the arms and limbs of both sexes are round and fleshy, rather than muscular. Face round, mouth wide, teeth remarkably fine, chin square, angles of lower jaw very prominent, cheek-bones high (cheeks therefore hollow); nose not very prominent, but never flat; eyes small and black; hair on the head long, lank, harsh, and generally black; elsewhere very scanty. This race is superior in appearance to the other, but less good-looking than most Asiatic nations. The black or Papuan race is a kind of dwarf African negro, never more than 5 ft. in height; spare and puny, with a projecting belly and buttocks, which are much lower than the African's; complexion sooty, nose and under-lip projecting very much from the face; hair woolly, in small tufts, and each hair with a spiral twist. For undersized people, the inhab. of the archip. are strong and athletic, though not agile, nor, like some Asiatic nations, fond of practising and exhibiting feats, to show the flexibility of their bodies. They have a singular strength of constitution, and ability to recover speedily from bodily accidents and resist inflammatory disorders. They are temperate and abstemious, and not devoted to intoxicating liquors, although they universally use betel, areca, and tobacco, and would consume much opium, were the price not so high. They are good-tempered, brave, humane, hospitable, and neither bigoted nor perfidious, but very revengeful. They are capable of attachment, gratitude, and fidelity, have great parental and filial affection, love for their country, and a regard for truth. The faculties of their mind are generally feeble; they are slow of comprehension, credulous, and superstitious; their judgment narrow, and their reason, memory, and imagination alike weak; they are, however, good imitators, and have an aptitude for music; in their manners they are grave, courteous, and reserved; they consider it most respectful to sit, cover the head, and turn the back to their superiors. The more savage tribes go quite naked, with the exception of a small piece of cloth worn round the loins. In the Philippines the dress is nearly the same for both sexes, and between the flowing dress of the Asiatics, and the close one of Europe, consisting of two coverings: excepting the Mohammedans, all wear the head uncovered. Their teeth are usually filed and blackened: the women's ornaments are chiefly of gold: pearls are never worn. All the men are armed with the *kris*, or dagger, which, with the spear, is the favourite weapon; the others are the club, sling, sword, and bow and arrows; the latter are often poisoned with *auchar*, which is, however, by no means, a powerful drug. They are not expert in the use of fire-arms. The materials of their dwellings are commonly bamboo, ratan, palmetto leaves, and wild grass, the two latter of which are used for roofing: houses in the neighbourhood of the seas are mounted on posts 15 to 20 ft. high, and superior residences are enclosed within temporary palings. They consist of but one floor, and their furniture is rude and scanty; the beds are rough mats, or often mere benches, on which a person lies down, with his day-dress wrapt around him. Knives and forks are unknown, and porcelain dishes are a luxury: meals are taken sitting on the ground; the food is served up in trays of wood or metal, and grasped by handfuls by each as he wants it. The Polynesian language, which, in various dialects, is spoken over nearly the

whole of the archip., and extends as well to Madagascar, and to the farthest of Cook's discoveries toward the S., is in every respect different from all others, and probably derived from an ancient nation originally settled in Java, where it is spoken in its greatest purity. Next to the dialect of Java, those of the Malay penins., Bugis, and Macassar, are the most civilised; Sanskrit is introduced into the more improved islands of the W. division; Arabic has also been introduced by the Mohammedans. There is in parts also a small admixture of Chinese and Persian, Portuguese and Dutch.

By far the greater portion of the land is yet uncultivated; and of that which is, the chief part is no better than a morass for half the year. There is a wide difference in the industry of the natives; some are roaming about their forests, but the greater number have actually made 'a respectable progress in social order, tamed the useful animals, applied themselves successfully to agriculture, to fisheries, to navigation, and even to mining.' The negro race are fond of hunting; all are devoted to games of hazard, and in Java cock-fighting is a favourite amusement. They are fond of dancing; their dances being grave, stately, and slow: their music is not destitute of melody. Polygamy and concubinage are common amongst the higher ranks, in the more civilised states. Chastity is variously appreciated; but women are never imured, and are even eligible to govern in elective monarchies as Celebes. Slavery exists everywhere except in Java. The inhab. of the archip. are clothed in cotton, mostly woven by themselves: silk they never were generally, nor was the silkworm ever cultivated by them: their loom they have derived from the Hindoos. They know how to work many of the most useful metals, as iron, tin, and gold. Some of their musical instruments are made of a kind of bell-metal, which they cast themselves; and they sometimes use a metallic coinage. Iron, however, is but little used for tools and implements of agriculture: their cutlery is wretched, from a want of knowledge how to temper it; and they are unable to make a lock for a musket. They carve *aris* handles, and make betel-boxes in a very superior manner, and build vessels even to 40 or 50 tons burthen; but their smaller ones are better, safer, and swifter. They manufacture *balachong*, a kind of fish-sauce, both for home consumption and exportation: salt they obtain by the usual means of evaporation, and saltpetre by boiling the soil of caves which bats and birds frequent. The manuf. of glass is unknown; but they attempt that of gunpowder: the great request, however, in which they hold that of Europe, proves the inferiority of their own. In war, the flower of their land-forces always consists of infantry; but their naval strength is the more formidable: their warfare has always been confined to predatory descents on adjacent islands. Every description of government is to be met with in this archip., from unlimited freedom in a savage state, to absolute despotism in the most civilised; in no one is there an hereditary nobility, and the civil and religious authority are in every case kept distinct. The public revenues are usually derived from the three sources of taxes on land, a poll-tax, and taxes on articles consumed or imported; in Java there is a tax on fisheries. Farming the revenues is a common practice, and it is common in many states for the prince or chief to reward his officers by assigning to them, instead of paying them directly, a certain extent of land, or the amount of the value of the labour of a certain number of cultivators. The prevailing religion is Mohammedan, which was introduced

into the archip. in the thirteenth, and continued to spread till the end of the sixteenth century. Christianity prevails only in the Philippines and the Spice isal. The Mohammedan laws are those chiefly in force in the civilised parts, and are closely adhered to sometimes; but the task of avenging private injuries mostly passes into private hands. The *lex talionis* is very popular, though almost all punishments may be compounded or alleviated by paying the party injured, his friends, or the executioner: stabbing by the *aris* is the most usual mode of capital punishment.

Trade in the archipelago is esteemed a most honourable employment, and even sovereigns personally engage in it. Java, Sumatra, and Celebes are the chief seats of trade: from the latter forty vessels go annually to the N. coast of Australia, and many others into the rest of the archipelago, to collect articles for the Chinese trade, the most considerable of all, yet not of 180 years' standing. The exports to China are pepper, cloves, mace and nutmegs, scented woods, ebony, ivory, horns, hides, tortoise-shell, sharks' fins, edible birds' nests, gold dust, benzoin, camphor, betel, wax, wool, tripong, and European woollens and cottons. The trade with India is believed by Mr. Crawford to have commenced at the beginning of the second century of the Christian era, and is now very extensive. The imports consist principally of pepper, tin, betelnut, fine woods, gold and silver, damar and spices. The exports to Europe and America have very greatly increased within these few years; principally in consequence of the wonderfully extended growth of sugar, coffee, and indigo in Java (which see). But, exclusive of these great staples, Java sends rice to the other islands, to the Cape of Good Hope, and even to Europe; sago is sent to Europe, China, and Bengal; cotton is produced principally in the great south chain of the first and second divisions, but little, however, is sent beyond the archipelago. The chief imports are black tea, coarse porcelain, wrought iron, cottons and silks, brass and tutenague ware, paper, books, shoes, fans, umbrellas, paint and toys, from China; salt, tobacco, blue cotton cloths and chintzes from India. Chintzes dyed red, green, and other bright colours, and especially in patterns of *running flowers*, are peculiarly acceptable to the natives. Manchester and Glasgow cottons, *bandana* handkerchiefs, cotton velvets and woollens. English saddlery and iron, firearms and ammunition, glass and plated wares, raw and wrought silks, and opium, are also in great request. These nations are ignorant of arithmetic, and, excepting in Java, 1,000 is the highest number they have any term to express. Interest on money lent is very high; bills of exchange are unknown; and women are almost solely the merchants, brokers, and money-changers. (History of the Indian Archipelago, by John Crawford, 8 vols. 8vo.)

ARCIS-SUR-AUBE, a town of France, dep. Aube, cap. arrond. on the river of that name, at the point where it begins to become navigable, and where it is crossed by the high road from Troyes to Rheims. Pop. 2,815 in 1861. The town has manufactures of woollen stockings and caps, an establishment for spinning cotton, tanneries, &c., and is the entrepôt of the iron of the valley of the Aube, and of the wire and woodwork of the Vosges. This town suffered severely during the campaign of 1814. Napoleon, who displayed equal skill and courage, repulsed at this point, with a very inferior force, one of the principal divisions of the allied army.

ARCO, or ARCH, a town of the Tyrol, with a

castle, on the Sarca, 7 m. W. Roveredo. Pop. 2,430 in 1857.

ARCOLE, a village of northern Italy, on the Alpora, 15 m. ESE. Verona. Pop. 2,185 in 1862. A series of sanguinary engagements took place here on the 15th, 16th, and 17th of November, 1796, between the Austrians and the French under Napoleon, when the latter gained one of the most signal victories in the famous campaign of that year.

ARCOS DE LA FRONTERA, a town of Spain, Andalusia, on the Guadalete, 80 m. ENE. Cadiz. Pop. 11,272 in 1857. The town is situated on an elevated rock, and is of difficult access. Streets unpaved, and ill adapted for foot passengers. It has two parish churches, and some convents for both sexes. The great altar of the church of Santa Maria is much adorned. The country in the vicinity is mountainous, intersected by valleys, and very fertile.

ARCOT, a marit. district of Hindostan, prov. Carnatic, presid. Madras, divided into two sub-districts, or collectorates, comprising the whole country from Coleroon river on the S. to the frontier of the Nellore district on the N. and E. of Cuddapah, Mysore, and Salem, with the exception of the Chingleput district lying round Madras. United area, 13,400 sq. m. Pop. 1,573,642 in 1861. The districts are divided by the Palaur river. Near the sea the country is low and well cultivated; but further inland it is hilly, with extensive tracts of jungle. Agriculture is the great business of the natives; and this depends very much on irrigation, to assist in which many very large tanks, artificial channels, and dams have been constructed. The country is held under the ryotwar system. (See INDIA.) The trade in piece goods has been well nigh annihilated by the introduction of the cheaper cottons of Great Britain; but cotton stuffs still continue to be manufactured at Pulicat and Irryccum, and there is an extensive iron foundry at Porto Novo.

ARCOT, a city of Hindostan, the former Mohammedan cap. of the Carnatic, on the S. side of the Palaur, 68 m. WSW. Madras, lat. 12° 54' N., long. 79° 23' E. It is well built, is enclosed by walls, and contains the ruins of the palace of the nabobs of Arcot. The population consists principally of Mohammedans who speak the Decanny dialect, which we call Hindostani. It has a handsome Mohammedan mosque, with some other Mohammedan religious edifices. The citadel, formerly of large extent and considerable strength, is now quite in ruins, its principal defences having been blown up; but the rampart next the river, as it protects the town from inundation, is kept in good repair. Arcot is very ancient, and has undergone many vicissitudes. It came definitely into our possession in 1801.

ARCTIC OCEAN, the name given to the sea extending from the Arctic circle; lat. 66° 30' N. to the North Pole, and washing the northern shores of Europe, Asia, and America. North of Europe it is called the White Sea; north of Siberia it forms the Gulfs of Kara, Obi, and Yenisee; and north of America it takes the name of the Polar Sea. The principal rivers flowing into it in America are, the Mackenzie, Coppermine, and Back; and in Asia the Obi, Yenisei, Olenek, Lena, and Kolima. Its chief islands are Spitzbergen, the Loffoden Islands, Kalgouef, Waigatz, and Novaia-Zemlia in Europe; the islands of New Siberia, in Asia, and the Polar archipelago in America. Ice, covering a space of nearly 4,000 m. extends for a winter season of about eight months round the Pole, and even in summer the surface is at the freezing point. From this region, during

the spring, icebergs and fields of ice drift into the North Atlantic—the former sometimes extending to 100 m. in length, and from 25 to 80 m. in diameter. The coast-line in Europe and Asia has been pretty well ascertained by English and Russian navigators, and the coast-line of North America has also been traced; but the archipelago of islands in the Polar sea remains yet to be explored, though the professed expedition to the North Pole must add considerably to our information. (See AMERICA.)

ARDAGH, an insignificant village of Ireland, co. Longford. The church is very ancient; and it was the see of a bishopric, united in 1685 to the bishopric of Kilmore, but separated from the latter in 1741, when it was united to the archbishopric of Tuam.

ARDEBYL, a town of Persia, prov. Azerbijan, 88 m. W. from the Caspian Sea, from which it is separated by a chain of high mountains, near the edge of an extensive and elevated plain, lat. 88° 15' N., long. 48° 28' E. Pop. said to amount to 500 or 600 families, or from 3,000 to 3,600 individuals. Houses mean and small, built of mud or sun-burnt bricks, with flat roofs, like those of the poorest villages. It is surrounded by a ruinous mud wall; but the fort is a regular square, with bastions, a ditch, glacis, and draw-bridge in the European style. The place is remarkable for containing the tombs of Sheikh Suffu, the founder of the Suffite dynasty of Persian princes and of a religious sect, and of some of his descendants. It is a good deal resorted to by pilgrims, but is now falling into decay. A fine library formerly belonged to Ardebyl; but it was carried to Petersburg on the town being taken by the Russians, by whom, however, it was restored to the Persians. (Fraser's Travels on the Shores of the Caspian Sea, p. 296.)

ARDECHE, a dep. of France, lying lengthwise along the W. side of the Rhone, by which it is separated from the Drome, having S. the Gard, W. the Lozere, and Haute Loire, and N. the Loire. Area, 539,000 hect. or 2,180 English sq. m. Pop. 886,559 in 1851, and 888,529 in 1861. With the exception of a narrow border along the Rhone, most part of the surface is occupied by hills and mountains belonging to the chain of the Cevennes: Mount Mezen, on its W. frontier, the highest in the dep., rises to the height of 1,774 toises (5,770 ft.) above the level of the sea. Several of the smaller hills are of volcanic origin. The cultivable soil is estimated at about 129,000 hectares—meadows, 44,000—vineyards, 27,000—forests, 98,000 mountains, heaths, &c., 148,000—and *cultures diverses*, 63,000 hect. Besides the Rhone, the dep. is watered by the Ardèche, whence it derives its name, the Erioux, and Doux; and it has to boast of the source of the Loire, which rises about 18 m. W. Privas. There are mines of coal, iron, lead, and antimony. The produce of corn is insufficient for the consumption of the inhabitants; the deficiency being supplied by potatoes and chestnuts, of which last the forests produce immense quantities. Valleys cultivated with the plough; hills generally with the spade. The inhabitants are exceedingly industrious, as is evinced by their careful system of irrigation, and by the terraces formed on the sides of the hills planted with vines. The culture of the latter is an object of great attention; and the wines of Limony, St. Joseph, Cornas, and St. Peray, particularly the last mentioned, are highly esteemed in foreign countries, as well as in France. The raising of the silk-worm and the production of silk is also a most important object in the economy of the dep. The culture of the olive has been abandoned, and the

any oil used is now procured from walnuts. Butter and cheese yield considerable returns; great numbers of fat hogs are exported; and the sheep, which are numerous, furnish annually about 410,000 kilogs. wool. Manufacturing industry is prosecuted with much spirit and success, the principal being silk, besides cloth, cotton, and paper. The paper produced at Annonay and other places ranks among the very best in Europe. The manufacture is not, however, very extensive. Laterly the tanning of leather, particularly of goat-skins for gloves, has become a considerable business. There are also fabrics of coarse cloth, linen, and straw hats, establishments for spinning cotton, with iron works, and forges. The dep. has three arrond., L'Argentière, Privas, and Tournon, 31 cant. and 389 comm. It forms part of the eighth military division, and is embraced in the diocese of Viviers, and under the jurisdiction of the *cour impériale* of Nîmes. Principal towns, Privas the cap., Annonay, and Aubenas.

ARDEE, an inland town of Ireland, co. Louth, prov. Leinster, on the Dee, whence its ancient name of Atherdee, 'Town on the Dee,' 36 m. NNW. Dublin. A strong castle, now fitted up as a court-house, built here by one of the early English settlers, long rendered it a place of much importance; but it was, notwithstanding, burnt by Edward Bruce, during his invasion of Ireland, in 1315, and again by O'Neil, during the wars in the reign of Elizabeth. In 1641, it was the headquarters of Sir Phelim O'Neil. Afterwards it fell into the hands of Cromwell, and was one of the stations of the army of James II., while retiring before that of William III. previously to the battle of the Boyne. Pop., in 1821, 3,588; in 1831, 3,975; in 1861, 2,580; pop. of par. in 1861, 4,273. The town, which stands in a fertile district, consists of a main street, having several lanes branching from it; the dwellings, with the exception of some good houses, are mostly miserable cabins. The church, built in the early part of the thirteenth century, and originally forming part of an Augustine monastery, is a plain structure in good repair: the R. C. chapel is a new and spacious edifice. There are schools for both sexes, under the endowment of Erasmus Smith; a savings' bank, and a dispensary. In the centre of the town is another ancient castle, now fitted up as a dwelling-house, and near the entrance is a large artificial mound, called the Castle Guard. It was incorporated towards the reign of Edward III., and received additional privileges from subsequent monarchs. Its ruling charter is that of 11th Anne, under which the gov. consists of a portreeve, twenty-three burgesses, and an unlimited number of freemen; the municipal government being vested in the portreeve, six burgesses, and six freemen, who hold office for life. The local courts have fallen into disuse; general sessions of the peace are held in January and June, and petty sessions every Wednesday: part of the ancient castle is used as a bridewell. The manufacture of malt is carried on to a considerable extent; there are also flour and meal mills. Turf is brought from a bog, about two miles distant, by the river Dee, which is here navigable for boats. A market-place for corn was built in 1710, and shambles in 1796, in which a well-stocked market is held every Tuesday. Fairs, principally for live stock, are held in a large enclosed area provided by the corporation on 1st March, 10th April, 6th June, 8th July, 20th August, 23rd October, and 17th December; that of October is principally for sheep.

ARDELAN, a prov. of Persia, forming the E. division of Kurdistan. It extends 200 m. in length, from the stream Sharook to the Turkish district

of Zohaub, and is nearly 160 m. in breadth. From the Sharook to Senna, cap. prov., in lat. 35° 12' N., long. 40° E., the surface presents successive clusters of hills, heaped, as it were, on each other, on extensive table-lands, covered with huts, and the flocks of tribes passing the summer months here, and migrating in winter towards Bagdad. The soil is good, and will yield abundance of wheat and barley; but the Kurds, who prefer a pastoral life, content themselves with raising only what is absolutely necessary for their subsistence. Tobacco is cultivated in small quantities; and the extensive forests of oak on the mountains W. of Senna afford abundance of timber and gall-nuts. The former is floated down the Zab in rafts into the Tigris, and the latter exported to India. Various tribes inhabit Ardelan, which are represented as robust, brave, temperate, and living to a great age; but they are averse from settled habits; war and rapine are their delight; and they scarce consider murder and parricide as crimes! They have a language of their own, and are proud of their descent, which they trace back to the most distant epochs. Some of their chiefs have great power. (Kinneir's Persia, p. 142.)

ARDENNES, a dep. in the N. of France, having N. Belgium, E. dep. Meuse, S. dep. Marne, and W. dep. Aisne. Area, 517,385 hect., or about 2,000 English sq. m. Pop. 331,296 in 1851, and 329,111 in 1861. The department derives its name from the old forest of Ardenne, which occupies its N. division. It is divided into two portions by a mountainous ridge, a ramification of the chain of the Vosges, by which it is traversed from SE. to NW. Principal rivers Meuse and Aisne, connected by means of the canal of the Ardennes and the Bar. Soil of very different degrees of fertility. The N. is interspersed with mountains or high hills covered with forests and heaths, and some plains in the SW. district are naked, arid, and barren. But it has some large and fruitful valleys, particularly that of the Aisne, one of the best corn countries in France. The extent of its principal divisions is set down as follows: viz. cultivable lands, 314,000; meadows, 48,000; forests, 95,000; and heaths, &c., 11,000 hect. Some inferior wine is made in the S. districts. There are large herds of cattle and flocks of sheep, there being among the latter, which are celebrated for their mutton, several of the long-wooled and merino breeds. The dep. is distinguished by its mines and manufactures. Among the former are those of iron, lead, calamine, &c., with quarries of slate and marble, the former the most important of the kind in the N. of France; coal is also found, but it is not worked, at least to any considerable extent. Above 6,000 individuals are employed in the arrondissement of Mézières in the nail trade, and 600 in the manufacture of ironmongery goods. Immense quantities of slate are quarried at Fumay, Fepin, and St. Barnabé. Fabrics of superior earthenware, glass, white lead, tanneries, &c., are met with at Montherme and other places. There are also numerous establishments for the spinning of wool; and various branches of the woollen manufacture are extensively carried on at Sedan and Bethel. The great manufactory of fire-arms on account of government, carried on at Charleville, has been transferred to Feltri and Chatellerault. Besides furnishing timber and other products for exportation to the contiguous depts. and Belgium, the forests are the great source of the productiveness of the mines, timber being the fuel used in the iron and copper works. The dep. is divided into 5 arronds, 31 cant., and 478 comm. It belongs to the fourth military division, diocese of Reims, and is under the jurisdiction of the *cour impériale* of N.

Metz. Principal towns Mezières, Sedan, Charleville, Bethel, and Givet.

ARDES, a town of France, dep. Puy-de-Dôme, cap. cant. on a small river that falls into the Allier, 10 m. SW. Issoire. Pop. 1,408 in 1861.

ARDGLASS, a marit. town of Ireland, co. Down, prov. Ulster, on the sea coast, a little to the N. of St. John's Point, between Dundrum Bay and the entrance of Strangford Lough, 68 m. NNE. Dublin. The town was formerly of such commercial importance that a mercantile company from London settled here in the reign of Hen. IV., and in that of Hen. VI. its trade exceeded that of any port to the N. of Drogheda. It was also a place of considerable strength, as appears from the gallant stand made in it by Simon Jordan, at the close of the reign of Elizabeth, who maintained it successfully during a siege of three years against the Earl of Tyrone; but subsequently, in consequence of its exclusive commercial privileges having been purchased up by the Crown, and transferred to Newry and Belfast, its trade declined, inasmuch that it has been for many years merely a fishing station and watering-place, and the port for embarkation to a few passengers to the Isle of Man. Pop. of town 774, of parish 1,065 in 1861. The town stands on the side of an elevated tract of land overlooking the sea, between two remarkable hills. It consists of a long semicircular street, with lanes branching from it; a range, called the Crescent, overlooking the bay, and several detached residences. The pa. church and R. Cath. chapel are neat buildings. Schools, on the foundation of Erasmus Smith, educate ninety boys and eighty girls; there are also several private schools, in which about 100 pupils are instructed. The harbour consists of an inner cove, capable of admitting vessels of 100 tons, but nearly dry at low water, and of a large outer harbour, which, having been still farther enlarged by a pier, extending 800 ft. into deep water, admits vessels of 500 tons at any time of tide: it has a lighthouse at its extremity. A constabulary force and coast-guard are maintained here. The fishery is the almost exclusive occupation of the working classes; that of herrings being most followed. During the season, which continues from the beginning of June to the close of August, vessels assemble here, not only from the fishing ports on the E. coast of Ireland, but from the Isle of Man, and Cornwall.

ARDNAMURCHAN POINT, a promontory on the W. coast of Scotland, Argyshire, being the most westerly point in the mainland of Great Britain, lat. 56° 45' N., long. 6° 8' 30" W.

ARDNAREE, a marit. town of Ireland, co. Sligo, prov. Connaught, 160½ m. WNW. Dublin, on the Moy, a bridge over which river connects it with the town of Ballina. It being, therefore, in reality a suburb of the latter, the particulars relative to it will be found under BALLINA.

ARDOCH, a village of Scotland, co. Perth, pa. Muthil, 8 m. N. Dumblane. Pop. of parish 1,074 in 1861. The village is remarkable for having in its vicinity one of the best preserved Roman stations or forts in the empire. It is an oblong, 420 ft. by 875 within the lines. On the W. side it is defended by the steep banks of the river Knaig, on the S. by a deep morass and two ditches, and on the other sides, where it is most exposed, by no fewer than five parallel ditches and six ramparts. On the S. side the ditches have been partially destroyed in the process of cultivation, and the W. side has been injured by carrying (unnecessarily) the military road from Stirling through Crieff to the Highlands through part of the works; but it is now luckily enclosed and protected from further depredation. The Prætorium, which is well preserved,

is a square, 60 ft. in the side, but it is not exactly in the centre of the station. Near this strong fort are three camps of different magnitudes, one 2,800 by 1,950 ft., estimated to accommodate 25,000 men; another, 1,910 by 1,840 ft., accommodating 12,000 men; and the third and smallest, 1,060 by 900 ft., accommodating 4,000 men. Nothing certain is known as to the period when, or the general by whom, this station and camps were constructed; but they are generally supposed to have been the work of Agricola. A little to the W. of Ardoch a cairn formerly existed 182 ft. in height; but it is now nearly demolished, the stones having been carried away to build houses and fences. (Roy's Military Antiquities.)

ARDOYE, a town of Belgium, 14 m. SSW. Bruges. Pop. 7,400 in 1856.

ARDRA, or AYEM, a country of Africa, formerly independent, but now a prov. of Dahomey. Ardra is also the name of the capital of the above country, about 40 m. inland.

ARDRES, a small but well-fortified town of France, dep. Pas de Calais, cap. cant., 9 m. SE. Calais, on the Northern of France railway. Pop. 2,277 in 1861. In the vicinity of this town, in June, 1520, was held the famous meeting between Francis I., king of France, and Henry VIII., king of England. The pomp and magnificence displayed on both sides, during eighteen days that the meeting lasted, acquired for the place of rendezvous the name of the *Champ du drap d'or*. The interview had no very important political result.

ARDROSSAN, a parish and sea-port town of Scotland, co. Ayr, the town being 24 m. WSW. Glasgow, 20 m. S. Greenock, and about 1 m. NW. Saltcoats. Pop. of parish in 1841, 4,947; in 1861, 6,776; of town in 1861, 2,896. The town was founded by the late Earl of Eglinton. His lordship's intention was to make a harbour here that should be accessible at all times of the tide; and as a project was, at the same time, set on foot for bringing a canal from Glasgow to Ardrossan, it was supposed that the latter would become the port of the former, and that the circuitous navigation of the Clyde would be avoided. In furtherance of this design, Lord Eglinton expended vast sums on the harbour and town. The harbour is partly formed by a small islet, called Horse Isle, which shelters it on the NW., and by a lengthened circular pier, and a breakwater. Within the extremity of the latter, there are 26 ft. water at spring ebbs, shoaling gradually to 15 ft., where the pier commences. There is a fixed light on the NE. breakwater. The wet docks which it was intended to construct have not been proceeded with. The town is laid out on a regular and magnificent plan; there is a splendid establishment of baths; and the purity of the salt-water, the mildness of the climate, and the facility of access, have made it be largely resorted to by visitors in the bathing season. The projected canal from Glasgow to Ardrossan not having been excavated further than the village of Johnstone in Renfrewshire, an act was obtained, in 1827, for constructing a railway from Johnstone to Ardrossan. For a while it was only completed as far as Kilwinning; but it has since been finished to Ardrossan; which, in consequence, has become more accessible, and is more frequented. There is regular steam communication with Arran and Belfast, in connection with trains from and to Glasgow by the railway.

AREBO, or ARBON, a town of Benin, on the river Formosa, 60 m. from its mouth. Lat. 5° 58' N., long. 5° 8' E.

ARECIFE, a sea-port town, cap. island of Lan-cerota, one of the Canaries, on its E. coast, lat. 26° 56' N., long. 13° 36' W. Pop. with Port Naas,

2,761 in 1861. The harbour, which though small is secure, is formed by several rocky islets. It has two entrances, the N. having a depth of 12, and the E. of 17½ feet, at low water, with a 9-ft. rise of tide. Both entrances are defended by bomb-proof forts. The inhab. are mostly engaged in the fishery on the opposite coast of Africa.

ARENDAI, a sea-port town of Norway, on the Arendal, 75 m. N.E. Christiansand, lat. 58° 27' N., long. 8° 50' 25" E. Pop. 2,257 in 1860. Arendal is mostly built on piles, and small vessels reach almost all parts of the town by means of the canals by which it is intersected. The harbour is protected by the opposite island of Tromoc. There are iron mines and forges in the vicinity; and a good deal of trade is carried on in iron and timber. There are also distilleries, tobacco manufactories and ship-building.

ARENDOUK, a village of Belgium, prov. Antwerp, 5½ m. E. by S. Turnhout. Pop. 3,230 in 1856. The town has manufactures of stockings and linens, and distilleries.

ARENIS DE MAR, a town of Spain, Catalonia, 26 m. N.E. Barcelona, near the sea. Pop. 4,784 in 1857. The town is neat and clean, has a fine parish church and a convent, fabrics of silk and cotton stockings, a school of pilotage, a yard for the building of small vessels, and anchor-forges. The women employ themselves in making lace.

ARENSBURG, a sea-port town of European Russia, gov. Livonia, cap. of the island of Oesel, in the Baltic, at the mouth of the Gulf of Riga, being situated on the S. side of the island, lat. 58° 15' N., long. 22° 17' 45" E. Pop. 8,592 in 1858. It has a castle, a Russian and a Lutheran church, a public school and a hospital. The water in the harbour being shallow, vessels are obliged to anchor in the roads at a considerable distance from town. The articles of export consist of corn, timber, butter, cheese, tallow, hides, and seal oil. Arensburg has recently been much resorted to for sea-bathing and 'mud baths.'

AREQUIPA, a city of S. America, rep. Peru, cap. prov. same name, in the valley of Quilca, on the Chile, at the foot of M. Omate, 7,700 ft. above the level of the sea, 30 m. E. from the Pacific Ocean, and 200 m. S.W. Cuzco, lat. 16° 30' S., long. 73° 11' W. It was founded by order of Pizarro, in 1536. The houses, though low, on account of the prevalence of earthquakes, are strongly built; and the cathedral, a bronze fountain in the great square, and the bridge over the Chile, deserve notice. It has four convents, a college, a workhouse, and several churches, as well as flourishing manufactures of gold and silver cloths, woollens, and cottons. Its environs, notwithstanding their elevation, are very fruitful; and by means of its port Molendo, and of the road passing through it from Lima to the S., it is the seat of a pretty extensive commerce, carried on chiefly with the port of Ilay, on the Pacific, and with the interior of Peru. It is very subject to earthquakes, from several of which it has sustained great injury, and it has also been injured by frequent revolutions. The accounts of its pop. differ very widely; but it may perhaps be estimated at about 35,000. The pop. of the prov., mostly Indians, is estimated at 180,000. The products are wheat, maize, sugar, gold, silver, lead, copper, sulphur, nitrate of soda, wine and brandy. The exports of Ilay, the port of the prov., amounted in 1863 to 526,178*l.*, the imports to 420,139*l.*

ARETHUSA, a famous fountain of Sicily, which rises clear to the sea, in the city of Syracuse. Cicero says of it, *In hac insula (Ortygia) extrema est fons aque dulcis, cui nomen Arethusa est, incredibili magnitudine, plenissimus piscium: qui*

fluctus totus operiretur, nisi munitione ac mole lapidum à mari disjunctus esset. (In Verr., lib. iv. § 58.) Poetry and fable have combined to give an enduring celebrity to this fountain. It was supposed that the river Alpheus, which flows past Olympia in Greece, and falls into the Sicilian Sea, did not terminate its course there; but that it continued to flow in a subterranean channel, preserving the purity of its waters till they again reappeared in the fountain Arethusa; and in proof of this it was affirmed that things cast into the Alpheus were after a while thrown up by the fountain! Virgil alludes to this circumstance when he says,

*Sic tibi, cum fluctus subter labere Sicanos,
Doris amara suam non intermiscuit undam.*

Eclog. x. lin. 4, 5;

and it is referred to by Pliny (Hist. Nat., lib. ii. § 3.) Seneca (Quæst. N., lib. iii. § 26), and other ancient authors. The poetical account of the fountain may be seen in Ovid's Met. lib. v. lin. 572.

This celebrated spring is now sadly changed. The sea has made its way, probably by the agency of the earthquakes so frequent here, into the fountain; so that, instead of being sweet, the water, which also is greatly diminished in quantity, in consequence of a large portion rising in the sea, is brackish and unfit for any purpose but that of washing. Its fish have disappeared with the sacred groves and temples that adorned its banks; and this glory of ancient Syracuse is now degraded into a sort of public washing tub for the poorer classes of the modern city.

AREVALO, a town of Spain, Old Castile, prov. Arela, on the Adaja, 29 m. N.N.E. Avila. Pop. 4,500 in 1857. Besides churches, it has two hospitals and two corn markets.

AREZZO (an. *Arretium*), a city of Central Italy, in the rich plain of Chiana (which see), 81 m. E. by N. Sienna, on the railway from Florence to Ancona. Pop. 36,806 in 1862. It is surrounded by walls, has a citadel, but is neither well built nor well laid out. It is the seat of a bishop, and has a Gothic cathedral. Its finest building, *le Logge*, containing the custom-house and theatre, in the principal square, has a magnificent portico, 400 ft. in length. The town has also numerous churches, convents, and four hospitals. There are manufactures of woollen stuffs and pins. Petrarch was born here, on the 20th July, 1304; and this also is the native country of Vassari, Bacci, and of Leondo Bruin, called Aretin.

Arezzo is very ancient, having been one of the principal states of Etruria. After it became subject to the Romans, it was reckoned a post of great importance as a defence against the incursions of the Cisalpine Gauls. It was famous for its terracotta vases, ranked by Pliny with those of Samos and Saguntum. (Hist. Nat., lib. xxxv. § 12.) The remains of the ruins of an amphitheatre are still visible. It was taken by assault by the French on the 19th of October, 1800. The prov. of *Arezzo* was an area of 1,230 sq. m.; pop. 222,654 in 1862.

ARGENTA, a town of Central Italy, deleg. and 18 m. S.E. Ferrara. Pop. 15,926 in 1861.

ARGENTAN, a town of France, dep. Orne, cap. arrond., on the river of that name, 22 m. N. by W. Alençon. Pop. 5,638 in 1861. It is agreeably situated on a hill in the middle of a large and fertile plain. The walls by which it was formerly surrounded have been demolished, and its ramparts converted into agreeable promenades. It is pretty well built, has a tribunal of original jurisdiction, with manufactures of linen, lace (called *point d'Alençon*), tanneries, and bleaching-grounds.

ARGENTAT or ARGENTAC, a town of France, dep. Corrèze, cap. cant. on the Dordogne. Pop.

8,485 in 1861. There are mines of coal and lead in the environs.

ARGENTEUIL, a town of France, dep. Seine et Oise, cap. cant., on the Seine, 13 m. NW. Paris, on the railway to Cherbourg. Pop. 5,465 in 1861. The celebrated Heloise was educated in a nunnery in this town; and it was to the same place that she retired, in 1120, after the misfortune of Abelard, before she became Abbess of Paraclet. There is here a hospital, established by St. Vincent de Paul.

ARGENTIE'RE, a town of France, dep. Ardèche, on the Ligne, 20 m. SW. Privas. Pop. 2,755 in 1861. It derives its name from mines of silver, wrought here in the twelfth century. It is situated on a rock in a deep valley, has narrow crooked streets, and is ill-built and dirty. It has filatures and fabrics of silk.

ARGENTINE REPUBLIC, see **PLATA (LA)**, Republic of.

ARGENTON-SUR-CREUSE, a town of France, dep. Indre, cap. cant., on the Creuse, 16 m. SSE. Châteauroux. Pop. 4,765 in 1861. This town is divided into two parts by the Creuse. The higher and more ancient part contained a vast Gothic castle, dismantled by Louis XIV., and of which there are now hardly any remains. The bleaching grounds for woollens at this place have been long celebrated. Argenton was called *Argintomagus* by the Romans; and medals, and other remains of that illustrious people, are still found in the town and its vicinity.

ARGOS, a city of Greece, in the Morea, in antiquity the cap. of Argolis, the kingdom of Agamemnon, and one of the most ancient and celebrated of the Grecian cities. It is situated about 2 m. from the bottom of the Gulf of Argos (*Argolicus Sinus*), and about $\frac{1}{4}$ m. NW. Napoli di Romania, lat. $37^{\circ} 40' N.$, long. $22^{\circ} 44' E.$ Some fragments of its Cyclopean walls, and vestiges of the theatre, are the only remains of the ancient city that can be identified below the acropolis. The latter stood upon a pointed rock of considerable elevation, and great natural strength, which is now surmounted by a castle, built on the foundations of the ancient citadel. The town suffered much during the revolutionary struggle between the Greeks and Turks, but it is said to have since rapidly risen from its ruins; the buildings, however, are mean and poor.

ARGOSTOLI, a sea-port town, cap. Island of Cephalonia, on the E. side of the gulf of the same name, lat. $38^{\circ} 10' 40'' N.$, long. $20^{\circ} 29' 15'' E.$ Pop. est. from 4,000 to 5,000. Situation low and unhealthy, and the houses mostly mean and poor; but both the appearance and police of the town, particularly the latter, have been much improved while it was under the protection of the English. The Gulf of Argostoli is about 8 m. in depth, by about $\frac{1}{4}$ or 2 m. in width, and has in most parts good anchorage.

ARGUIN, a very small island, in the gulf of the same name, on the W. coast of Africa, about 54 m. SE. from Cape Blanco. It is abundantly supplied with fresh water, and is supposed, apparently on good grounds, by D'Anville, Bougainville, and Rennell, to be identical with the Island of Cerne, where Hanno settled a colony during his famous voyage of discovery. In modern times it has been successively possessed by the Portuguese, Dutch, and French; but has been abandoned for more than half a century. The dangerous bank or shoal of Arguin extends SE. a considerable distance from Cape Blanco. It has been the scene of numerous shipwrecks; among others of that of the French frigate *la Méduse*.

ARGUNSKOI, a town and fortress of Siberia,

on the Argun, the chief branch of the Amour, 162 m. from its mouth. The fort is palisaded, on the right bank of the river, and in lat. $51^{\circ} 51' N.$, long. $119^{\circ} 50' E.$

ARGYLE, or **ARGYLL**, a marit. co. Scotland, consisting partly of mainland, and partly of islands, of which the principal are Islay, Mull, and Jura, having N. Inverness-shire, E. Perth and Dumbarton shires, S. the Irish Sea and the Frith of Clyde, and W. the Atlantic. Its shores are extremely irregular, consisting of lengthened promontories and deep bays and inlets. The total area comprises 8,255 sq. m., or 2,083,126 acres, of which about 1,446,400 acres are mainland, and 608,000 islands. The rivers are unimportant; but the freshwater lakes in the mainland and islands are supposed to cover 51,840 acres. Owing to its deep bays and gulfs, the sea coast of the mainland is estimated at about 600 m. A large portion of the surface consists of heathy moors, morasses, rocks, and wild rugged mountains. Ben Cruachan, the most elevated of the latter, rises 3,670 ft. above the level of the sea. Woods and plantations cover from 35,000 to 45,000 acres. Lead, copper, and iron are met with, and coal is wrought near Campbeltown. Good marble is found in the Island of Tiree, and several other places; and the slate quarries of Easdale and Balachulish supply a large portion of the demand for Scotland. Climate mild, but wet, variable, and boisterous. The entire extent of the arable land is not supposed to exceed 170,000 acres, so that grazing constitutes the main business of the farmer. Argyle is celebrated for the excellence of its native breed of black cattle; they are small, hardy, easily fed, and, when fattened in the rich pastures of the Lowlands of Scotland or England, afford the very best beef that is brought to table. Sheep farming is not carried on so extensively as in some other Highland counties; but latterly it has been a good deal extended, and the breeds of sheep much improved. Property in a few hands. Farms of all sizes, extending from a few acres to many square miles. In various districts in this co. the practice of holding land in partnership, or what is called *run-rig*, was kept up until recently, and still exists in some remote regions. Under this system, a number of persons take a farm in common, each being bound for the rent. They then divide the arable land into small contiguous portions, or ridges, as equally—quantity and quality taken together—as is possible; the space falling to each tenant being determined by lot, sometimes for the whole lease, and sometimes only for a single season. Ploughing and most other sorts of labour are performed in common; and if, as is usually the case, any hill pasture be attached to the low ground, it is let in common. In some of the low Highland districts occupied in this way, the land falling to the share of an individual does not exceed from three to seven acres, and that, perhaps, is divided into some dozen or twenty patches. Farm buildings of various kinds: those on the largest and best farms good and substantial; but, in general, the houses of the smaller class of occupiers, and of the cottiers, are miserable hovels, sometimes without either windows or chimneys. Improved cottages, are, however, begun to be introduced; and it is to be hoped that they may be universally diffused. Principal corn crops, oats and barley, especially the first. Potatoes are very extensively cultivated, and form an important part of the food of the inhabitants. Kelp is made along the shores both of the mainland and islands; but the business has latterly fallen very much off. This, also, is the case with the herring fishery, which used formerly to be prosecuted to a much greater extent than at present, in Loch Fyne and

other arms of the adjacent sea. Steam navigation has lately given impulse to every branch of industry, and the coast on the Frith of Clyde is in daily communication with Glasgow and Greenock. Here also there are numerous watering-places, the favourite resort of the citizens of Glasgow, as well as visitors from more remote parts of Scotland, in the summer.

Argyle is popularly divided into the seven districts of Argyle, Cowal, Kintyre, Lorn, Appin, Islay, and Mull, and contains fifty parishes. Principal towns, Campbellton, Inverary, and Oban. It had, in 1831, 17,146 inhab. houses, 19,252 families, and 100,973 inhab., having increased from 71,859 in 1801. In 1861, however, owing to the clearances effected of the cottiers, the population had diminished to 79,724, and the inhabited houses to 18,923. It sends one m. to the H. of C. for the co., and Campbellton and Inverary join with Arr and Irvine in returning a m. Parl. constituency in 1864, 1,914. Valued rent, 149,596*l*. Scotch; annual value of real property in 1864-5, 354,179*l*.

ARGYRO CASTRO, a town of Turkey in Europe, in Albania, the principal place in the extensive and well-cultivated valley of Deropuli, near the river Drino, on the lower declivity of the mountains on the W. side of the valley, at a short distance from the site of the old Roman town of *Hadrianopolis* or *Justinianopolis*, 45 m. NW. Yannina, and 50 m. SE. of Avlona. It has an imposing and peculiar aspect, being built on three separate ridges, divided from each other by deep chasms or ravines. The houses, which are mostly good, are not contiguous, but stand in various positions. 'Some are placed on commanding eminences, others beneath projecting crags, and many on the ridges of precipices; but the greater part upon the flat surface of the rock, between its deep ravines: the whole appearance is singularly striking, and its fine effect augmented, not only by the minarets of its mosques, but by the grand castle or fortress, upon a much larger scale than any ever before constructed in this country.' (Hughes, ii. 360, 8vo. ed.) Pop. estimated at about 4,000. It has a good bazaar, which used to be well supplied with articles of commerce. Previously to its subjugation by Ali Pacha, it was a place of considerable industry, had a pretty extensive internal trade, and enjoyed a considerable degree of independence.

ARIANO, a town of South Italy, prov. Avellino, on a steep hill, in one of the passes of the Apennines, 17 m. E. Benevento, on the road from Naples to Foggia and Manfredonia. Pop. circa 14,500 in 1861. It is the residence of a bishop, and has a fine cathedral, with numerous churches, convents, and *monts-de-piété*; a seminary; a hospital, and a manufacture of earthenware. It suffered much from earthquakes in 1456 and 1732, and seems lately to have been declining, though now partaking in the prosperity of the new Italian kingdom.

ARICA, a sea-port town of Peru, S. America, on the Pacific Ocean, at the mouth of a small and well-watered valley, 210 m. NW. Potosi, lat. 18° 28' 40" S., long. 70° 18' 30" W. It was nearly destroyed by an earthquake in 1605, and has been ever since in a comparatively poor state, though now growing in importance. Pop. about 30,000. It is a better landing place than the contiguous ports of Ilo, Mollendo, and Quilca; and it is much better situated for commerce than Lamar, that has hitherto been the principal port of Bolivia. But notwithstanding its superiority to most other ports on this part of the American coast, it was, till lately, owing to the heavy surf, at all

times difficult to effect a landing, and sometimes quite impossible, unless in the *balsas* of the natives. There is now a pier for landing, and a battery to defend the shipping in the roads. The chief exports are copper ore, wool, and silver. Arica is connected by railway with the city of Tacna, 40 m. to the north, where most of the foreign merchants reside. The net earnings of the railway in 1863 were 29,143*l*.

ARIGNA, a place in the N. of the co. Roscommon, Ireland, on the W. side of Lough Allen, near which are coal and iron mines that have been worked at different times with various success; but generally with great loss to the parties carrying them on. The coal is of an inferior quality. The proceedings of a company formed in London, in 1824, for working the Arigna mines, were of so singular, or rather so disgraceful a character, as to give rise to an inquiry before a committee of the House of Commons. Full details as to these mines may be found in 'Weld's Survey of Roscommon.'

ARISPE, a town of Mexico, in the intendency of Sonora, near the source of the river Yagrin. Pop. estimated at 5,000.

ARIZONA, a district of the U. S. N. America, bounded on the W. by the Rio Colorado, on the E. by long. 105° W. to the 34th parallel of lat., and thence W. on the same parallel to the Colorado river; on the S. by Sonora and Chihuahua, on the boundary line between the U. S. and Mexico, and from Rio Grande on the 32nd parallel in Texas to long. 104°. Area about 100,000 sq. m. The district was ceded by the Mexicans in 1853 to the U. S., and forms now a portion of New Mexico.

ARKANSAS, a large river of N. America. It rises in the Rocky Mountains, in about 41° N. lat. and 110° or 111° W. long.; and, pursuing an ESE. direction, unites with the Mississippi in lat. 33° 55' N., long. 91° 10' W. The river has a course, following its bends, of about 2,170 m. It has several important tributaries, of which the Great Canadian, falling into it on the right, is the principal. During the periodical swell, the Arkansas is navigable to the Rocky Mountains; and at other times it may be navigated for about 600 m. from its confluence with the Mississippi. Its navigation is safe, being uninterrupted by rocks, shoals, or rapids. If the Missouri be reckoned the first in magnitude among the tributaries of the Mississippi, the second rank is due to the Arkansas, it being longer, and draining more surface than the Ohio, Mississippi proper, or Platte.

ARKANSAS, one of the U. S. N. America, so called from the above river, by which it is traversed through its whole extent from W. to E. between 38° and 36° 30' N. lat., and 89° 44' and 94° 30' W. long., having E. the Mississippi, by which it is divided from the states of Tennessee and Mississippi. Length 240 m., breadth 228 m. Area about 52,000 sq. m. Pop. in 1820, 14,273; in 1830, 30,388; in 1840, 97,574, of whom 19,935 were slaves; and in 1860, 324,143, of whom 111,115 were slaves. Besides the Arkansas, the principal rivers are the White River, the St. Francis, Washita, and Red River, all affluents of the Mississippi. The country is divided into three portions, viz. 1st, the E. portion, or that lying along the Mississippi, low, flat, and covered with a dense forest; 2nd, the central portion, a little more elevated, and containing several extensive prairies; and the 3rd, or W. portion, which, compared with the others, may be called mountainous. All descriptions of soil are met with. On the borders of the rivers it is exceedingly fertile, but as it recedes from them it becomes poorer, and in some

of the more elevated parts is sterile. In many districts there is a scarcity of water. In the E. part of the state, and in the hollows along the rivers, especially the Arkansas, the climate is moist and unhealthy; but in the middle and W. parts it is comparatively salubrious. The mineral riches of the state are very imperfectly explored: but it contains vast quantities of salt, which, indeed, render the waters of the Arkansas brackish. Iron ore, coal, zinc, lead, manganese, and gypsum, are also found. Indian corn and cotton are staple products; wheat, oats, tobacco, &c., are also raised. The country is well fitted for the rearing of cattle, and large herds of buffaloes are met with. Wild turkeys are also very abundant. Manufactures have made but little progress. Education appears to be in a backward state. It is very indifferently supplied with common schools; though these would appear to be much neglected. Arkansas was purchased, as part of Louisiana territory, by the United States from France in 1803. It was erected into a separate territory in 1819, and into a state in 1836. It joined the so-called Confederate States by an Act of Secession from the Union, passed May 6, 1861; but was conquered before long by the army of the United States. Suffrage universal: senate, elected every four years, to consist of not less than seventeen, nor more than thirty-three members; house of representatives, elected biennially, consists of not less than fifty-four, nor more than a hundred members. Governor elected for four years, judges for eight years. Slaves not to be emancipated, without owners' consent. The state is divided into fifty-one counties. Cap. Little Rock, or Arkaplie, on the S. bank of the Arkansas, about 80 m. in a direct line from its mouth. Pop. in 1840, 2,500; in 1860, 3,727. It stands on high ground; and has a state-house, theatre, academy, gaol, and penitentiary. Several newspapers are published in the town. During the late civil war, the post of Little Rock was one of considerable importance.

ARKLOW, a marit. town, E. coast of Ireland, co. Wicklow, prov. Leinster, on the Ovoca, at its mouth, 89 m. S. by E. Dublin. It was taken possession of, and a castle erected by the first English settlers. In 1649 it was taken by Cromwell, and dismantled. A severe conflict took place here in 1798, between the royal forces and the insurgents; in which the latter were defeated with much slaughter, and their leader killed. Pop. in 1861, par. 6,257, town 4,760. The town, placed on the declivity of a hill on the S. side of the Ovoca, which is crossed at a short distance below by a bridge of nineteen arches, is divided into the Upper Town, consisting chiefly of a main street, formed of well-built houses, and of the Lower Town, called also the Fishery, from being chiefly inhabited by fishermen. The church, a handsome building in the English style, was erected in 1823. The R. Cath. chapel is also an elegant modern structure. The Methodists have a small place of worship. A male school is supported on the foundation of Erasmus Smith; two female schools by private contributions, and some others in the same manner; in which, and in private seminaries, about 550 children receive instruction. A fever hospital, with a dispensary, is in the immediate vicinity of the town. A small infantry barrack stands on the site of the ancient castle, and a coast-guard station is in the neighbourhood. Petty sessions are held every Thursday. The town is a constabulary station. The inhabitants derive their support chiefly from the fisheries. There used to be an abundant summer fishery for herring and hake; but the former have deserted

the coast for some years, and the winter fishery is also declining. The oyster fishery continues to be a great and constant source of employment to the fishermen, who attribute the comforts they enjoy to its continuance. The oysters are carried in boats to Beaumaris, in Anglesey, where they are laid on banks; and raised, when required, for the Liverpool market. These people build their cottages on the sandy beach; few have any kind of garden. Their exertions are much impeded by the defects of the harbour, which has a bar at its mouth, with seldom more than 5 ft. water even at high spring tides. The boats, when returning home, are obliged to lie off the bar and watch the opportunity of crossing it on the rise of the wave, and few boats come in without striking. The fishermen keep up a light, at their own expense, during the season, to point out the bar. There is a floating light S. end of Arklow bank, lat. 52° 42' N., long. 6° 57' W.

ARLANC, a town of France, dep. Puy de Dome, cap. cant., on the Dolore, 10 m. S. Ambert. Pop. 3,960 in 1861. It manufactures ribbons and articles of *menuis-mercerie*.

ARLES (an. *Arelas* or *Arelate*), a city of France, dep. Bouches du Rhone, cap. arrond., on the left bank of the Rhone, at the point where the river divides into two branches to inclose its delta, or the island of Camargue, 46 m. WNW. Marseilles, on the railway from Marseilles to Avignon. Pop. 25,548 in 1861. The situation of the town, though pleasing, is, owing to the adjacent marshes, not very healthy; and its streets being narrow and dirty and its houses mostly old and mean, it is indebted for its celebrity principally to the historical associations connected with its name and its monuments. It was an important town on the invasion of Gaul by Cæsar, who calls it *Arelate*. It subsequently became a Roman colony, and was long a large, rich, and populous city. Its amphitheatre (which does not, however, appear ever to have been quite finished) is a noble monument, capable, according to Martinière, of accommodating 30,000 spectators: it is of an oval form, 1,284 ft. in circumference, three stories high, occupying the highest place in the city, and is older, larger, and more magnificent than that of Nîmes, but not so well preserved. The obelisk of Arles consists of a single block of granite about 54 ft. in height; though, unlike other monuments of the same kind, it be without hieroglyphics, it is all but certain that it has been brought from Egypt; but there are no authentic accounts with respect to it, except that, after being long buried in the ground, it was erected on the pedestal 20 ft. in height, on which it stands, in 1676. A beautiful statue of Venus, now in the museum of Paris, was discovered here in 1651; and exclusive of the above, the ruins of an aqueduct, of two temples, of a triumphal arch, an extensive cemetery, and numerous fragments of granite and marble columns, evince the former grandeur and importance of the city. It has a cathedral and numerous churches, and has been the seat of several ecclesiastical councils. The town hall, built by Mansard, is a handsome edifice; and it has a school of navigation, a college, a museum of antiquities, and a small public library. Silk, soap, glass and bottles, are manufactured, and the sausages of Arles are in the highest esteem. To obviate the difficulties in the navigation of the Rhone and Durance, a navigable canal has been made from the city to the sea, at Port Bouc, about 12 m. E. of the E. embouchure of the Rhone, and from the city to the Durance opposite to Cadenet. It is also connected with the canal of Beaucaire, and consequently with that of Languedoc, which water communication, together with that of the

railways, have made it the centre of a considerable and growing trade.

After being pillaged, A.D. 270, Arles was repaired and embellished by Constantine, whose son, Constantine II., was born in it. It declined under the Merovingian kings. In 855 it became the capital of a kingdom of the same name, united in 983 to that of Burgundy. It was sacked by the Saracens in 780. In the twelfth century it constituted a republic, and in 1251 it submitted to Charles of Anjou.

ARLESHEIM, a village of Switzerland, cant. Bale, 4 m. SE. Bale. It has baths and a fine botanical garden. Pop. 986 in 1860.

ARLES-SUR-TECH, a town of France, dep. Pyrénées Orientales, cap. cant. 6 m. WSW. Céret. Pop. 2,456 in 1861. It has hot mineral springs.

ARLEUX, a town of France, dep. du Nord, cap. cant. on the Sausset, 6 m. S. Douay. Pop. 1,660 in 1861.

ARLON (an. *Arolanum*), a town of the Netherlands, duch. of Luxembourg, cap. cant., on a hill in the middle of forests, 16 m. WNW. Luxembourg, with which it is connected by railway. Pop. 5,647 in 1861. It has iron works, and some manufactures of linen and woollen stuffs, and earthenware, and a trade in grain. Arlon, which is of very remote origin, was formerly fortified. In the excavations that have been made in the town, statues, medals, and stones bearing inscriptions, have been dug up that leave no doubt in regard to its ancient importance. It was nearly burned down in 1785, and several engagements have taken place in its vicinity.

ARMAGH, an inland co. Ireland, prov. Ulster, having N. Lough Neagh, W. Tyrone and Monaghan, S. Louth and E. Down. It is about 81 m. in length from N. to S., and 20 m. across where broadest, containing 512½ sq. m., or 812,827 imp. acres, of which about 40,000 are unimproved mountain and bog, and 18,000 water, being part of Lough Neagh. Surface partly rugged and mountainous, but generally flat. Soil pretty fertile. Property to a great extent in the hands of the church, colleges, and corporations, but some noblemen and gentlemen have good estates. Minor estates numerous, and the tenures by which they are held such as to reduce them into the minutest portions. Potatoes, oats, and wheat are the principal crops. There are some dairies which produce butter, and cattle of an inferior breed are reared in the mountains. Sheep, few and inferior. Mid-dlemen but little known. Habitations of the bulk of the lower orders decidedly superior to those of the same class in most other parts of Ireland, except the neighbouring counties of Down and Antrim. They are mostly whitewashed, well thatched, and have a clean and comfortable appearance. Notwithstanding their alleged propensity to gambling, the inhab. may be advantageously compared with those of most other parts of Ireland. Linen manufacture widely diffused. The rivers Bann and Newry being joined by the Newry canal, there is a navigable communication between the sea at Carlingford Bay and Lough Neagh. Armagh contains eight baronies, and twenty-eight parishes and parts of parishes. Principal town, Armagh. Pop. in 1821, 197,427; in 1831, 220,651; in 1841, 232,393, and in 1861, 198,086. It returns three m. to the H. of C., viz. two for the co. and one for the city of Armagh. The co. constituency numbered 5,805 registered electors in 1865.

ARMAGH, a city and parl. bor. of Ireland, the seat of the archiepiscopal see of the 'Primate of all Ireland,' prov. Ulster, cap. of the above co., on the Callam, an affluent of the Blackwater, 70 m. N. by W. Dublin, and 83 m. SW. of Belfast by

railway. The city is said to have been founded by St. Patrick, A.D. 450, but we have no authentic notice of Armagh or of its primacy previously to 1122. Since the Revolution it has gradually increased in extent and prosperity, particularly from its having been the residence of Primate Boulter, and of his various successors in the see, who have all contributed to its improvement by liberal donations and bequests. The population in 1821 amounted to 8,493; in 1831, to 9,470, and in 1861 to 8,801. There have always been more Roman Catholics than Protestants at Armagh, notwithstanding the fact of the town being regarded as the head-quarters of Protestantism in Ireland. The census of 1861 showed 1,318 males and 1,499 females who belonged to the Established Church, and 2,112 males with 2,711 females who were Roman Catholics.

The city is well built, chiefly of a hard reddish limestone, raised in the vicinity. The streets, which are flagged, and macadamised, diverge from the cathedral down the sides of the hill on which it is built. A plentiful supply of water is conveyed through them, in pipes, from a reservoir at some distance: they are kept perfectly clean, and are well lighted with gas. A library, containing upwards of 14,000 volumes, was endowed by Primate Robinson, the great benefactor of the town. He also founded and endowed the observatory. It is supplied with an excellent astronomical apparatus, and enjoys a well deserved scientific celebrity. Primate Robinson endeavoured to raise the city to the rank of a university, but in this he failed. The archbishop's mansion is plain in style, but elegant in its architectural proportions, and near it is a private chapel. Barracks in the vicinity afford accommodation for 800 men.

Armagh derived its corporate privileges from a charter of James I. in 1613, confirmed by William III. The ruling body, which consisted of a sovereign, twelve burgesses, and an unlimited number of freemen, was abolished by the Municipal Reform Act. The bor. returned two m. to the Irish parl.; but it only sends one m. to the Imp. parl. The constituency, in 1865, numbered 416 registered electors, of whom seven were 'old freemen,' and the rest 102 householders and 81. rated occupiers. The assizes and general sessions of the peace are held twice a year; a court for insolvent debtors three times a year; and a court of petty sessions every Saturday.

The ecclesiastical prov. of the Primate of all Ireland comprises the six united bishoprics of—1. Armagh and Clogher; 2. Tuam, Ardagh, Killybegs, and Achonry; 3. Derry and Raphoe; 4. Down, Connor, and Dromore; 5. Kilmore and Elphin; 6. Meath. The diocese of Armagh is divided into the upper or English part, which includes the cos. of Louth and Meath, and the lower or Irish part, containing Armagh, Tyrone, and part of Londonderry. The archiepiscopal estates extend over 100,563 acres; the annual income, by rents and renewal-fines, is stated to be 17,670*l.*, which, on the demise of the present archbishop, is to be reduced to 12,000*l.* The cathedral, a large ancient building, has recently undergone very extensive repairs, principally at the expense of the present primate. It contains several fine monuments; but, to the extreme regret of all true Milesians, the monument of Brian Boru, said to have been interred in it after the battle of Clontarf, can no longer be traced. A chapel of ease, near the Mall, is consecrated to St. Mark. In the R. Catholic arrangements, the parish is one of those belonging to the archbishop, who resides and has his cathedral in Drogheda. The parish chapel, which is remarkable for its triple roof, is too small for the

congregation. There are places of worship for Presbyterians, Seceders, Independents, and Methodists.

Armagh has one of the free grammar-schools so liberally endowed by James I. It is a large building, in an enclosed area, with accommodation for 100 resident pupils. The present primate maintains a separate school, for the general education of the boys of the choir. There is a charter school for boys and girls, under the endowment of Mr. Dreilincourt; a Lancastrian, a national, and a Sunday school, besides several private establishments.

Though little or no manufacture be carried on in the town, Armagh is the centre of a large inland trade, chiefly in grain, linen, and yarn, which has considerably increased since the opening. The linen-hall, a large and well arranged building, is open for sales on Tuesdays, chiefly for brown linens. There are considerable weekly sales of yarn at the yarn-market.

ARMENIA, an extensive country of W. Asia, consisting principally of the table-land lying between the Kur on the N. and the Kurdistan mountains on the S., having the Euphrates from the ridge of Mount Taurus to Erzingan on the W., and approaching to near the Caspian Sea on the E. But the limits of Armenia differed widely at different periods, and were at no time exactly defined. The flat parts of the country are, probably, not less than from 5,000 to 6,000 ft. above the level of the sea, and it is intersected by several lofty mountain chains, the summits of some of which—as that of Ararat (see ARARAT)—ascend within the line of perpetual congelation. Armenia gives birth to some large and celebrated rivers, as the Euphrates and Tigris, flowing S. to the Persian Gulf; the *Cyrus* or Kur, and its important tributary, the *Araxes* or Aras, flowing E. to the Caspian Sea; and the *Akampsis* or Chorar, flowing N. to the Black Sea. It has three great lakes; those of Van, Shahee or Urmiah, and Goukcha or Sevan. The circumference of the first is estimated at 240 m.; it has several islands; and its waters, though brackish, are drunk by cattle. The other two lakes are also very extensive. The water of that of Urmiah is excessively salt, and so buoyant that one can with difficulty stand where it is 3 ft. deep. The soil and products are very various; but in general the former is abundantly fertile, especially in the few spots where it is irrigated. In the higher parts all sorts of corn may be advantageously cultivated; and the valleys produce excellent cotton, tobacco, grapes, &c. The ploughs are all drawn by oxen or buffaloes; no fewer than eight or ten of the former being frequently attached to one. The only minerals raised in modern times are copper, iron, and rock-salt; but in antiquity the precious metals ranked among its products. Owing to the great elevation of the country, the climate is in most parts rather severe; but though the winters last long, the summer heats are sufficient to bring all the fruits of the earth to perfection. The country is in many parts desert, and is everywhere very thinly peopled. Besides the Armenians, or old inhabitants, who are principally engaged in agriculture and trade, the population consists of Turks, Persians, and Russians, and wandering pastoral hordes of Turkmans and Koords. The principal towns are Erivan, Erzeroum, Nakhchivan, Akhlat, Van, and Akhalzikh.

Armenia, though it has long since been effaced from the list of nations, was governed, for a lengthened period, either by independent princes, or by vassals of the Assyrian and Persian monarchs. It subsequently became the theatre of long-continued struggles between the Persians and Romans; and notwithstanding the hardness of the inhabitants, and the natural advantages of the country for de-

sensive warfare, it seems never to have been able to oppose an effectual resistance to any invader. In the thirteenth century it was overrun by the Moguls; and in the succeeding century the last trace of its independence disappeared, and the Armenians ceased to have a country.

The people early began to seek an asylum in foreign parts from the oppression under which they suffered at home, and they are now widely diffused over Turkey, Persia, Russia, and India. Their emigrations have not, however, always been voluntary. In 1604, Schah Abbas, emperor of Persia, in order to protect his dominions on the side of Armenia against the Turks, resolved to carry off the inhabitants, and to lay waste a large portion of the country, so that it might no longer be able to support an army. This monstrous resolution was executed with the most revolting barbarity. The inhabitants, driven off like cattle, perished by thousands, while their houses were burnt down and every vestige of civilisation obliterated. A part of the survivors were settled in one of the suburbs of Ispahan, where they were kindly treated; but the greater number, being settled in an unhealthy part of the prov. of Mazunderan, were soon swept off by disease. Until recently, Armenia was divided between Turkey and Persia; but the former ceded to Russia, by the treaty of Adrianople, a considerable portion of her Armenian territories; and in 1827, Russia acquired the entire prov. of Erivan from Persia. These acquisitions have been consolidated into the government of Transcaucasia. The Turkish portion of Armenia is subdivided into the pashalics of Erzeroum, Kars, and Van.

Whatever may be its influence in other respects, there can be little doubt that the occupation of part of Armenia by the Russians will be of singular advantage to its inhabitants. Great numbers of Armenians have already emigrated from the Turkish and Persian provinces to those of Russia, where they have been advantageously settled. The depredations of the petty chiefs and of the wandering tribes will now be effectually restrained; and for the first time for these several centuries, the Armenians will be made aware of the advantages resulting from the security of property, and from living under a strong and (compared with those under which they formerly lived) a liberal and tolerant government. Col. Monteith bears decisive testimony to the benefits that have resulted to Georgia and other Transcaucasian countries from their occupation by Russia. 'You may now,' he says, 'travel in perfect security, with post-horses, from the mouths of the Phasis to the Kur and the Caspian, through countries where, in 1815, the roads were all but impracticable, and exposed to the unrestrained attacks of robbers and other banditti.' (Journal of the Geographical Society, vol. iii. p. 87.) These remarks are confirmed by the experience of late travellers.

The total number of the Armenian nation is estimated by Mr. Conder at about 2,000,000, of whom about two-thirds may be within the Ottoman dominions. With the exception of the Jews, no other people is so much scattered. It is supposed that there are about 200,000 in Constantinople and the adjacent villages; about 40,000 in India; 10,000 in Hungary and the contiguous countries; and they are met with in Africa and even America. Mr. Usher (Travels, Lond. 1865) states that the number of Armenians in Armenia proper is not very large: they are supposed altogether to consist of ten or twelve millions, scattered over nearly every country in the world.

Like the Jews, the Armenians found in foreign

countries are mostly all engaged in some department of commerce, or of the employments connected therewith. The moment, in fact, that they leave their native soil, they endeavour either to get themselves or their children into some branch of trade. They begin with the lowest departments; the more able or fortunate ascending gradually from one grade to another, till they arrive at that of banker, the summit of their ambition. A large proportion of the foreign and internal trade of Turkey, Persia, Southern Russia, India, &c., particularly the first, is in their hands. They are exceedingly industrious; and though not free from the vices produced by slavery and ignorance, are honest in their dealings, and less prone to practise deceit, than the Greeks.

The Armenians are Christians differing but little from those of the Eastern or Greek church. They reject the decrees of the council of Chalcedon, and admit only a divine nature in Christ. Their officiating clergy, or *varabeds*, are obliged to marry; but celibacy is enjoined upon those of a higher grade, as patriarchs, bishops, &c. The election of the officiating clergy is in the hands of the people, and is uniformly exercised by them; but, notwithstanding this circumstance, and that the priests have no fixed incomes, but depend entirely on fees and other perquisites, they do not appear to have much influence, or to be very attentive to their duties: they are uniformly almost in the last degree illiterate, and their morals are not represented in the most favourable point of view. (*Missionary Researches*, p. 248.)

The Armenians generally do not acknowledge the supremacy of the Pope; but since 1441 have recognised, as their spiritual superior, the patriarch of Echmiadzin, residing at the famous convent of the three churches, near Erivan, now in possession of Russia. The patriarchs of Constantinople and Jerusalem have no authority in ecclesiastical affairs; but the Turkish government consider the former as the head of the Armenian rayahs: through him all applications are received, and all orders issued; and he is accustomed to receive an annual stipend from the different bishops, which was paid him even by the patriarch of Echmiadzin till the latter became a Russian subject. Previously to 1441, the patriarchs of Sis and Athamar (a monastery on an island in Lake Van) shared the spiritual authority with the patriarch of Echmiadzin; and latterly the Porte [with little success] has been endeavouring to sever the connection between its Armenian subjects and their old spiritual head, now under the control of a foreign power, by directing their attention to, and reviving the pretensions of, the patriarch of Sis, resident within the Turkish territories. (*Elliott's Travels*, i. p. 470.)

A considerable number of Armenians are in connection with the Roman See; they are called the United Armenians. The Armenians of Poland, together with their patriarch, submitted to the Holy See as early as the year 1616. But a more important fact in connection with these views was the foundation of the order of Mechitarists, first in the Morea, and afterwards in the island of San Lazaro, at Venice. Mechitar, an Armenian monk, was born at Sebaste in Asia Minor, in 1676. Thirsting after knowledge, and filled with ardent love for his people, he endeavoured by spiritual and moral influences, and the dissemination of European culture, to elevate his unfortunate and oppressed nation; and to this purpose he dedicated his life. He submitted to the Pope, and founded, with his consent, an order and monastery, into which only native Armenians were received. He also established an Armenian printing-press. He

and his companions and successors have done much in translating from other languages into Armenian. He himself translated Thomas à Kempis. These Armenian books are sent by caravans into Persia and India, and prepare the way for the education of the people. . . . In Georgia there are many Roman Catholic Armenians: they have a great dislike to their non-united countrymen, and do not call themselves Armenians, but Catholics, as if that were the name of a nation. . . . Many attempts have also been made to unite the Armenian with the Greek church. Six Armenian villages on the west bank of the Euphrates have adopted the Greek faith, the largest of which is called Aga or Aguntsi. The Protestants, too, have endeavoured to make converts. The Basle missionaries founded an Armenian school at Shusha, which was, however, removed, at the request of the Patriarch, who regarded it as dangerous. (*Haxthausen*; *Ussher's Travels*, p. 269.)

Nowhere is the patriarchal system carried to a greater extent than among the Armenians. During the lifetime of the father, all the sons and their descendants live together in one common dwelling; and thus houses may be found which, from the number of their inhabitants, resemble beehives, often comprising three and four generations. All the property is held in common by the descendants of the head of the house. Brothers and sisters inherit equally; but until the death of the head no one can possess anything separate from all the others. Until marriage the Armenian girls go about as they like; they are unveiled, and enjoy as much freedom as they could do in European countries, flirting, love-making, and marrying to please themselves, as in more civilised lands. But once married, and all is changed. From that time until she bears a child, she never speaks to any one except her husband; and then only in private. After she becomes a mother, she may speak to her mother-in-law first, and after the lapse of certain periods, to her own mother, her sisters-in-law, and her own sisters. She is always veiled, even in her own house; she never speaks to male strangers, and she seldom or never leaves the house. Her finery, jewellery, and ornaments can be shown only to those of her own sex; and in every way her seclusion is as complete as that of the Turkish women. On the other hand, the Armenian women seldom do any hard work; they remain at home while their husbands labour in the fields, and they enjoy, probably on account of their acquaintance prior to marriage, much more respect and confidence from their husbands than falls to the share of the Turkish wife, who, moreover, has to divide with two or three rivals the little affection or respect which her husband deigns to bestow on her. As the Armenian woman can only talk in her own house below her breath, that none of her male relatives may hear what she says, it follows that the consequence which usually results from the residence of so many women in one house, incessant quarrelling, is quite avoided. Custom, the strongest of all laws, forbidding them to speak above a whisper, a war of words could only be carried on under great difficulties. (*Ussher, John*; *From London to Persepolis*, 1865, p. 248.)

The language of Armenia is harsh, and overloaded with consonants. Besides a great many Indo-Germanic roots, it exhibits numerous relations with the Finnish idioms of Siberia, and other languages of N. Asia. Its grammar is exceedingly complex. The ancient Armenian is no longer spoken, and exists only as a dead language in books. It is so very different from the modern Armenian, that it is no longer understood, except by those by whom it is studied. The modern

language is largely made up of Persian and Turkish words; and its grammar, and the construction of its phrases, are totally distinct from those of the ancient language.

The alphabet of the Armenians, introduced A.D. 406, and still in use, consists of thirty-eight letters, of which thirty are consonants, and eight vowels. At an early period the Armenians had a literature and learned men; and, though the great bulk of the nation be now plunged in the grossest ignorance, they continue to this day to possess both, and works of considerable merit are still printed in their language. They have printing-presses at Constantinople, Venice, Moscow, Calcutta, and other places. (Jaubert, *Voyage en Arménie et en Perse, passim*; Smith and Dwight's *Missionary Researches in Armenia*; Colonel Monteith's Paper, in the *Journal of the Geographical Society*, vol. iii.; and Ussher's *Journey from London to Persopolis*, 1865.)

ARMENT, a village of Upper Egypt, near the left bank of the Nile, 20 m. N. Esné. It occupies the site of the Ancient *Hermonthis*. It has in its environs a temple, on the walls of which, among other figures, is a giraffe—an animal now unknown in Egypt.

ARMENTIERES, a frontier town of France, dep. du Nord, cap. cant. on the Lys, 18 m. NW. Lille. Pop. 11,901 in 1861. It is well built, clean, and handsome; has a communal college, an establishment for spinning cotton, fabrics of table-linen, mattresses, laces, thread, tobacco, &c.; with bleaching-grounds, soap-works, distilleries, and a refinery of salt. Large quantities of bricks, made in the environs, are exported by the Lys, and boats are built for its navigation. It has a celebrated market for seed corn.

ARNAY-LE-DUC, a town of France, dep. Cote-d'Or, cap. cant. near the Arroux, 29 m. SW. Dijon. Pop. 2,587 in 1861. It has manufactures of cloth, serges and druggets. On the 25th June, 1750, the great Huguenot leader, Admiral Coligny, defeated near this town the army of the Marshal de Cossé-Gonor.

ARNEDO, a town of Spain, prov. Burgos, on the Cidacos, 10 m. S. Calahorra. Pop. 3,335 in 1857. Good wine is made in its neighbourhood.

ARNHEM, a town of the Netherlands, cap. prov. Guelderland, on the right bank of the Rhine, at the foot of the Veluwe hills, 34 m. E. by S. Utrecht, on the railway to Düsseldorf. Pop. 20,904 in 1861. It is a fortified place of the first class; its fortifications having been greatly improved and enlarged, in 1702, by the famous engineer Coehorn. The ramparts, planted with elms, afford an agreeable promenade. The town is well built; has a good port on the river, which is crossed by a bridge of boats; and is advantageously situated for trade. It is the residence of a governor, and is the seat of a court of assizes, of a tribunal of original jurisdiction, and a tribunal of commerce; and has a college, a literary society, an agricultural commission, &c. In the church of St. Eusebius are the tombs of the old Dukes and Counts of Guelderland.

ARNHEM LAND, N. coast of Australia, between the Gulf of Carpentaria and Anson Bay, discovered by the crews of the 'Arnhem' and 'Père,' in 1618. It forms part of the territory apportioned to South Australia by the Royal Letters Patent of July 1863, for the purpose of the colonisation of the north coast of Australia. (See AUSTRALASIA.)

ARNO, a considerable and celebrated river of Italy (Tuscany), the *Arnus* of the Romans, has its source in the Apennines, at Mount Falterona, 5 or 6 m. N. Pratovecchio. At first it flows S. to

Punte a Buriano; thence N.W. to Pontassiere, where it receives the Sieve; whence it pursues a westerly course, flowing through Florence and Pisa; 7 m. below which it falls into the Mediterranean. Its embouchure was formerly a good deal farther to the S.; but having become obstructed, it was diverted into a new channel cut for it in 1608. Its course may be estimated at from 140 to 150 m. It is naturally navigable from the sea to Florence, and has been made navigable from Florence to near its source by means of twenty-seven locks; but its navigation is liable to many obstructions, at certain seasons from floods, and at other seasons from droughts: to guard against the injurious influence of the former, it has been embanked for the greater part of its course. The Val d'Arno, or the country between Florence and Pisa, is one of the richest, best cultivated, and most beautiful of any in Italy.

ARNSBERG, a town of Prussian Westphalia, cap. reg. and circ. of the same name, on the Ruhr, by which it is almost encompassed, 57 m. NE. Cologne. Pop. 4,800 in 1861. It is the residence of the provincial authorities, and has a court of appeal for the regency, a Catholic gymnasium and an agricultural society. The inhabitants are principally employed in the preparation of potashes, and in distillation.

ARNSTADT, a well-built town of Saxony, prin. Schwarzburg-Sondershausen, on the Gera, 11 m. S. by W. Erfurth. Pop. 6,696 in 1861. The town has a castle, a college, a cabinet of natural history, and fabrics of cotton and brass, with a considerable trade in corn, timber, wool, furs, and colonial produce.

ARNSWALDE, a town of the Prussian states, prov. Brandenburg; cap. circle, 19 m. SE. Stargard, and a station on the Stettin and Posen railway. Pop. 4,700 in 1861. It is nearly surrounded by three lakes well supplied with fish.

AROKSZALLAS, a vill. of Hungary, Jazygia, 44 m. ENE. Pesth, and an entrepôt for the trade between that city and Upper Hungary. Pop. 8,170 in 1858.

AROLSEN, a town of the prin. of Waldeck, on the Aar, 12 m. N. by W. Waldeck. Pop. 1,965 in 1861. It is the residence of the prince, and the seat of the principal authorities of the province; is well built; has a fine castle, in which is a valuable collection of coins and antiquities, with a library and a picture gallery; there is also a college, and grammar-school.

ARONA, a town of North Italy, prov. Novara, on the Lago Maggiore, near its southern extremity, on the railway from Novara to Bellinzona. Pop. 8,259 in 1861. Its fortifications, which were formerly considerable, were demolished by the French after the battle of Marengo. It is well built, has a gymnasium, a hospital, a collegiate church and three others, a port on the lake, with yards for the construction of vessels for its navigation, and a pretty considerable commerce. St. Charles Borromeo was a native of this town; and in 1697 a colossal statue was erected in honour of the saint, by the people of Milan, on a neighbouring eminence.

ARPAIA, a small village of Southern Italy, prov. Benevento, between Capua and Benevento, 8 m. E. Arienza. Pop. 1,385 in 1862. The village is supposed to occupy the site of the ancient *Caudium*, memorable for the great disaster that befell the Roman arms, anno 311 B.C. But the better opinion seems to be, that the defile situated a little to the N. of Arpaia, between St. Agato and Moiano, is the real scene of this disaster, and the place so celebrated by the name of the *Furor Caudina*. The Forks consist of a small plain,

crossed by a stream, having a narrow outlet at each end, and shut up everywhere else by continuous and impracticable mountains. A powerful Roman army having unwarily entered this defile, the Samnites immediately blocked up the further outlet; and the Romans, having retraced their steps, found that their enemies had anticipated their movement, by blocking up the pass by which they had entered as well as the other. Caught thus, as it were, in a trap, they were obliged to accept the terms dictated by the Samnites, who granted them their lives, on their delivering up their arms, and passing one by one half naked under the yoke. (Liv. lib. ix. cap. 1-7.)

ARPINO (an. *Arpinum*), a town of South Italy, prov. Caserta, 6 m. SW. Sora. Pop. 11,522 in 1861. The town is agreeably situated on some eminences, has various churches, a hospital, with manufactories of the best cloth made in the prov., paper, and tanneries. Arpino is a very ancient city. Having been wrested from the Samnites by the Romans, it became a municipal town, and its citizens were enrolled in the Cornelian tribe 302 years B.C. (Liv. lib. x. § 1, and lib. xxxvii. § 36, and Cicero pro Cn. Plancio.) But it is chiefly memorable for being the birthplace of two of the most distinguished men Italy ever produced—Caius Marius, surnamed the third founder of Rome; and M. Tullius Cicero, the prince of Roman orators. The latter frequently alludes to Arpinum in his Letters, and dwells with complacency on the rude and primitive simplicity of its inhabitants. (Cramer's Ancient Italy, vol. ii. p. 114.)

ARQUA, a town of Northern Italy, prov. Padua, 12 m. SW. Padua, in the bosom of the Euganean hills. Pop. 1,090 in 1862. Arqua is famous for having been the residence of Petrararch during the latter years of his life, and the place where that great poet and restorer of modern literature breathed his last, on the 19th of July, 1374. 'His ashes are preserved in the churchyard of the town, in a sarcophagus of red marble, raised on four pilasters on an elevated base, and preserved from an association with meaner tombs.' The kindred genius to whom we are indebted for these details, observes:—

They keep his dust in Arqua, where he died;
The mountain village where his latter days
Went down the vale of years: and 't is there his pride—
An honest pride—and let it be their praise,
To offer to the passing stranger's gaze
His mansion and his sepulchre; both plain
And venerably simple, such as raise
A feeling more accordant with his strain,
Than if a pyramid form'd his monumental fane.

'The house in which Petrararch resided is on the edge of a little knoll overlooking two descents, and commanding a view not only of the glowing gardens in the dales immediately beneath, but of the wide plains, above whose low woods of mulberry and willow, thickened into a dark mass by festoons of vines, tall single cypresses, and the spires of towers, are seen in the distance, which stretches to the mouths of the Po and the shores of the Adriatic. The chair in which the poet breathed his last is still shown among the precious relics of Arqua.' (Childe Harold, canto iv. § 31, and note 9.)

ARQUA, an ancient village of Northern Italy, prov. Rovigo, on the Castagnaro canal, 5 m. SSW. Rovigo. Pop. 2,760 in 1862. It has some trade in cotton and silk.

ARQUENNES, a village of Belgium, prov. Hainault, 18 m. N. W. Charleroi. Pop. 2,225 in 1856. The village has valuable lime and marble quarries.

ARQUES, a small decayed town of France,

dep. Seine Inférieure, about 3 m. from Dieppe, Pop. 960 in 1861. During the middle ages this was the principal bulwark of Normandy towards the N.; its castle, now in ruins, having withstood several sieges. In the vicinity of this town, in 1589, Henry IV. defeated the troops of the League under the Duc de Mayenne.

ARRAN, an island of Scotland, co. Bute, in the arm of the sea between the Mull of Cantire and the Ayrshire coast; being separated from the former by Kilbrannan Sound, and from the latter by the Frith of Clyde. It is 4½ m. from the nearest point of the Isle of Bute, 8½ m. from the nearest point of Cantire, and 10½ m. from Ardrossan point in Ayrshire. It is about 16½ m. in length from N. to S. and from 6 to 9 in breadth; extreme breadth 11 m. Acreage, including the islet of Pladda and Holy Island, 100,000. It exhibits a striking contrast in its N. and S. divisions, the former, or that to the N. of Brodick, presenting lofty, bare, and rugged granite mountains, connected by steep ridges and intersected by deep valleys and ravines. Goatfell, the highest mountain in the island, rises to the height of 2,874 ft. above the sea. The S. and largest division of the island is composed of undulating, hilly ground, the eminences of which are of a flattened or rounded configuration, and covered with a deep stratum of peat and other alluvial matter. Round the greater part of the coast an almost uninterrupted broad bank or girdle of gravel has been formed by the action of the sea, the soft greensward on which affords a pleasant and convenient access along the sea-side. The shores are generally steep and rocky, but high cliffs are not frequent. Generally, the island may be considered as an illustration of a geological epitome, containing probably more numerous varieties of geological formation than any other district of similar extent. Three deep bays indent the island—Ransa on the NW., and Brodick and Lamlash on the E.: the latter being defended from the W. gales by Holy Island, 1 m. in length, is one of the best asylums for shipping in the Frith of Clyde. Marble, jasper, agates, cairngorms, and a fine species of rock crystal called the Arran diamond, are met with. The red deer and wild goat, formerly very abundant, are now nearly if not entirely extirpated. Cheviot sheep are generally introduced, and the native breeds of cattle and horses are being superseded by the larger and more esteemed breeds of Argyleshire and Ayrshire. Swine are raised in considerable numbers, and the steamboats that touch at the island have opened a new market for fowls and eggs. Grouse and black-cock are very plentiful. The system of agriculture formerly followed in Arran was as bad as can well be imagined; the lands were held jointly by several tenants on the common or *run-rig* plan (see ARGYLE), and were scourged by a constant course of corn crops, which succeeded each other in a series, unbroken except by the occasional introduction of potatoes, as long as the soil would produce any thing; but, since 1815, the Duke of Hamilton, who is proprietor of nearly the whole island, has laboured strenuously and successfully to introduce a better system; partly by letting farms to individuals for a fixed term of years, excluding sub-tenants and assignees; partly by introducing conditions into the leases fitted to insure a better system of management, and partly by expending large sums on the building of houses, enclosing, making drains and roads. The people at first were very much opposed to the change, but their prejudices have gradually given way, and they are now for the most part sensible that it has been as advantageous to them as to the proprietor. Since the occupiers have cu-

joyed possessions each might call his own, they have steadily advanced in habits of industry, and though in this respect they are still behind the tenants and labourers of the mainland, it is believed that in no insular Highland district is greater industry shown than in Arran.

There are now a number of large farms enclosed, subdivided and well cultivated, having valuable stocks of cattle and comfortable farm-steadings, where formerly there were numerous huts without chimneys or windows, and ridges running in all directions without a single enclosure or subdivision. The general rotation, except on the shores, is, 1. Oats; 2. Green crop—potatoes, turnips, beans or peas, with manure; 3. Bear or bigg, wheat or oats, often manured; 4. Hay; 5. Pasture grass; 6. Pasture, sometimes grass a year or two longer. On the shores and holms, the rotation is, 1. Oats; 2. Green crop; 3. Bigg or wheat—these often with manure; 4. Hay; and then oats, &c., again. These rotations are not always adhered to by the tenants having the small possessions, but they all sow grass seeds with the corn crop which succeeds the green one, and this of itself necessarily leads to better management than they formerly practised.

Wheat to a considerable extent has for a few years past been raised by the tenants of the larger possessions, and a great number of the small tenants also grow from half an acre to two acres each of that grain.

By these changes in the mode of possession, and by the improvement of the soil, it will easily be seen that more and better cattle may be reared and supported than formerly, and the produce of milk is also much greater. Since 1822 the Duke of Hamilton has supplied good Argyleshire bulls, at his own expense, for the cattle on his property, keeping always in the island from twenty to thirty, placed at convenient distances. The consequence of this arrangement is, that the cattle have been surprisingly improved in every respect. On a few of the larger farms stocks of Ayrshire cows are kept, and succeed very well.

A number of boats employed in the herring fishery belong to Kilbride and Brodick, the principal villages. But the herring fishery in the Frith of Clyde and Loch Fyne is not nearly so prosperous at present as it once was. Luckily its decline is little, if any, loss to the island; for, having no considerable town population, the fishery is principally carried on by the cottiers and small farmers, engrossing their attention at the time their services are most necessary on shore, at the same time that it has a tendency to generate and keep alive idle and dissipated habits. Kelp used to be produced in considerable quantities, but its manufacture has now nearly ceased. Most of the woollen cloth formerly used in the island was made by the women, but a good deal is now imported. The principal exports are cattle, sheep, oats, and fish.

A good deal of illicitly distilled whisky was formerly exported, but that branch of industry, if it may be so called, has all but ceased. Steamers ply regularly between Glasgow and Greenock, and various places on the island, and also between Ardrossan and the island, which is now much resorted to by the citizens of Glasgow and of the W. of Scotland, as well as by tourists from all parts of the world. Its singular beauty would bring to it still greater numbers if encouragement was given to building, but the Dukes of Hamilton, who own the greater part of the island, are not in favour of converting the island into a watering-place.

Brodick, the principal village, is finely situated at the bottom of Brodick Bay, on the E. side of the island. Near it is Brodick Castle, a seat and occasional residence of the Dukes of Hamilton.

Though Gaelic be generally spoken, English is understood by everybody.

Arran is divided into two parishes. Its population amounted, in 1755, according to Dr. Webster, to 8,646; in 1801 it amounted to 5,179; and in 1881 to 6,427. It declined somewhat during the ten years ending with 1851, but is again on the increase, amounting in 1861 to 5,538.

ARRAN (N. ISLES OF), on the W. coast of Ireland, co. Donegal, opposite Danglee, the most N. extremity of the largest, called Arranmore, being in lat. 55° N., long. 8° 29' W. A lighthouse is erected on this point, with a fixed light elevated 200 ft. above high-water mark. This island contains about 2,000 acres and nearly 1,000 inhab., the land being divided into the minutest portions, such as a 'cow's foot,' or the quarter of a cow's grass. They are mostly fishers. On a smaller island a fishing village called Rutland was erected by the Fishing Board, in 1786, but it is now nearly deserted.

ARRAN (S. ISLES OF). These consist of three islands stretching NW. and SE., about 12 m. along the mouth of Galway Bay, in Ireland, being part of the co. Galway. They contain in all about 7,000 acres; the largest, Arranmore, comprising about 4,607; Innis More, 1,338; and Innis Leer, 909. They are very fertile, but occasionally suffer from a scarcity of water. The fishing of cod and ling is carried on to a considerable extent, a pier having been constructed at the village of Killaney, on the largest island, at the expense of the Fishery Board, for the accommodation of the craft employed. The principal products are fresh and cured fish, oats, feathers, the produce of puffins, a superior kind of yearling calves in great demand by the Connaught graziers, to which were formerly added great quantities of smuggled whisky. A lighthouse, with a revolving light, has been erected on the highest point of the largest or most northerly of the islands, lat. 53° 7' N., long. 9° 40' W., having the lantern elevated 498 ft. above the level of the sea. These islands give the title of Earl to the family of Gore. The inhab., who are very poor, continue in a rather primitive state, and the Irish language is universally spoken.

ARRAS, a city of France, dep. Pas de Calais, of which it is the cap., on the Scarpe and the Crinchon, 60 m. SE. Calais, 85 m. NE. Amiens, and 100 m. NNE. Paris, on the railway from Paris to Brussels. Pop. 25,905 in 1861. The city is situated in the middle of an extensive and fertile plain; the Scarpe divides it into two parts; it is well built; houses stone; several of its squares and public buildings handsome, and worthy of notice. Among the latter are the old Gothic church of St. Waast, the hôtel of the Préfet, theatre, belfry, and barracks. The cathedral, a fine old Gothic building, was destroyed during the revolutionary frenzy. Arras was fortified during the reign of Louis XIV., by Vauban. The citadel, which is very strong, is separated from the town by an esplanade, but it is included within the line of the works. It is the seat of a bishopric, and has a court of assizes, a tribunal of original jurisdiction, a college, a grand diocesan seminary, a secondary ecclesiastical school, a school of engineering (*école régimentaire de génie*), an academy of belles-lettres, a literary society, a botanical garden, a school for deaf and dumb, a school of design, a cabinet of natural history and antiquities, a museum of pictures, and a public library containing 36,000 volumes. There are establishments for the spinning of cotton, manufactures of cotton stuffs, hosiery, lace, coarse woollen stuffs, and potteries, and fabrics for the preparation of beet-root sugar, soap, starch, beer,

and rape-oil. The Scarpe becomes navigable at this point.

Arras is a very ancient city, and has been the theatre of many sanguinary contests. The revocation of the edict of Nantes gave a severe blow to its manufactures. It also suffered much during the revolution, having been for a considerable time at the mercy of Lebon, a ferocious terrorist, a native of the place. Robespierre, of famous memory, was also a native of Arras; as was Damiens, the assassin of Louis XV.

ARRAYOLLOS, a town of Portugal, prov. Alentejo, 15 m. NNW. Evora, at the foot of a mountain on the summit of which is a citadel. Pop. 2,050 in 1858. It has some fabrics of stained paper.

ARRIEGE, a dep. in the S. of France, on the Spanish frontier, having S. the Pyrenean mountains, E. the depts. Pyrénées Orientales and Aude, and N. and W. the Haute Garonne. Area, 455,000 hectares. Pop. 251,850 in 1861. This dep. consists principally of the N. slope of the Pyrenees; the mountains, which cover the greater part of its surface, increasing gradually in elevation as they approach its S. frontier; the altitude of the highest summits varying from about 7,000 to about 10,500 ft. above the level of the sea. The principal valleys are those of the Arriège and the Salat, the only navigable rivers in the dep. According to the official tables, the cultivable lands occupy about 148,000, meadows 34,000, woods (on the mountains) 90,000, vineyards 11,680, and heaths, wastes, &c. 136,000 hectares. Gold has been found; and there are valuable iron mines near Vic Dessois, and other places. The N. portion is pretty fertile and well cultivated, producing wheat, rye, oats, maize, and millet. Horses an inferior breed, and oxen and mules frequently employed in their stead. The total produce of wine is estimated at 115,000 hectolitres a year; but the quality is inferior, and it is wholly retained for home use. The forests have not been taken proper care of; and in many parts, owing to the consumption of the iron furnaces, and the want of sufficient attention, there is a scarcity of wood. The working of metals is the principal branch of manufacturing industry; but there are also manufactures of cloth, serges, floss-silk, and cotton stuffs. It is divided into 3 arr. (Foix, Pamiers, St. Giron), 20 cant. and 336 comm. It belongs to the third military division, is in the diocese of Pamiers, and under the jurisdiction of the *cour impériale* of Toulouse. Principal towns, Foix, Massat, and Pamiers.

ART, or ARTH, a town of Switzerland, cant. Schwitz, at the S. extremity of the lake of Zug, 7 m. S. Zug, at the foot of mounts Rigi and Rossburg. Pop. 2,196 in 1860. The town is well built. The church of St. George is remarkable for its architecture, and for an immense fountain, formed of a single block of granite. There is a convent of Capuchins, with a good library. The valley of Art is very picturesque and interesting, from its position among the highest mountains of breccia anywhere to be met with.

ARTA, a town of Spain, island of Majorca, on its NW. angle. Cape Pera, where there is a small fort, depends on it. Pop. 4,535 in 1857. Its territory, which is very fruitful, produces cotton, and has mill-stone quarries.

ARTA, a town of Turkey in Europe, Albania, on the Arta, about 7 m. above where it falls into the gulf of that name. It is a place of considerable size and trade. When visited by Dr. Holland, in 1812, it contained six mosques, a large cathedral, and a great number of Greek churches, and was supposed to have a population of about 6,000. It suffered severely during the Greek insurrection;

and Lient. Wolfe, by whom it was visited in 1830, says that, in many places, masses of ruins impeded the passage of the streets, and that an aspect of desolation and misery hung over it. It has since improved, though the population is estimated at only 5,000. It is governed by a bey, under the pacha of Yannina, and is the seat of a Greek bishop. It has manufactures of cottons, woollens, and leather. The floccatas, or shaggy capotes made here, are reckoned very superior. Embroidery is said to be brought to considerable perfection; and all articles of dress from Arta are highly prized. Each trade has its separate street or bazaar; but, by a judicious regulation, butchers are obliged to kill, and sell their meat outside the town. The market is abundantly supplied with fruit and vegetables. There is a curious Venetian bridge over the river, consisting of one large and several very small arches.

Arta occupies the site of the ancient *Ambracia*. Traces of the ancient walls may be seen in many places, but especially under the more modern remains of the ruined castle: the stones consist of vast quadrangular blocks, so admirably fitted that it is with difficulty the point of a penknife can be inserted between them:—no mortar seems to have been used in their construction. There is here, also, the ruins of a convent, built in 845, now converted into a caravansera. (Holland's Travels in Albania, p. 82, 4to. ed.)

ARTA (GULF OF), the *Sinus Ambracius* of the ancients, is a deep inlet or gulf of the Ionian Sea, between the Turkish province of Albania and the NW. part of the new kingdom of Greece. The entrance to it, between Prevesa on the N. and the fort of La Punta on the S., is only 700 yards across. The fort now mentioned is built at the extremity of a low, narrow tongue of land, celebrated in history as the *Promontory of Actium*. Outside the entrance is a bar, composed of gravel, coarse sand, and sea-weed, with 15 feet water when shallowest. On entering the Gulf, we first come to what is called the Bay of Prevesa, occupying the space between the mouth of the Gulf and Capes La Scora on the N. and Madonna on the S.; and it is only after passing these headlands that the Gulf properly opens. It is a noble sheet of water: its extreme length from W. to E., including the Bay of Prevesa, is about 25 m.; and its greatest breadth about 10 m.; but in several places it is a good deal narrower: the depth varies from 13 and 14 to 36 fathoms. The S. shore consists of high land, with bold promontories, clothed with rich and extensive woods; the N. shore is for the most part low, and has encroached considerably on the water. Part of the vast chain of Pindus is seen from the Gulf. It has been long celebrated for the variety and excellence of its fish: red and grey mullet are the most abundant; and there are plenty of soles, eels, prawns, &c.: sardine fishing is extensively carried on.

The entrance to the Gulf of Arta was the scene of one of the most memorable and important conflicts recorded in history. The battle of Actium, which decided the fate of Augustus and Mark Antony, and of the Roman world, was fought off the promontory of that name, at the southern entrance to the Gulf, anno b.c. 29. The exact space occupied by the hostile fleets has been disputed. Most probably the battle raged all round the promontory, but principally on its W. side, or in what is now called the harbour of Prevesa, and the contiguous sea.

ARTERN, a town of Prussian Saxony, reg. Merseburg, on the Unstrut, 30 m. W. by S. Halle. Pop. 8,700 in 1861. It has a castle, a brine-spring, and a distillery.

ARTHUR'S SEAT, a hill in the immediate vicinity of Edinburgh, on the SE. side of the city, rising 822 ft. above the level of the sea. Its ascent from the latter is gradual and easy; but on the side towards the city it rises abruptly, and, in parts, almost perpendicularly, from the low grounds. On the S. side of the hill, above the footpath leading from Edinburgh to Duddingstone, is a superb range of porphyritic greenstone columns, from 50 to 60 ft. high. The part of the hill nearest Holyrood House is called Salisbury Crag, and, till within the last thirty years, its quarries furnished most part of the paving-stones used in London. The view from the top of Arthur's Seat is one of the most diversified and fine in the empire.

ARUDY, a town of France, dep. Basses Pyrénées, cap. cant., on the Osseau, 12 SE. Oloron. Pop. 1,980 in 1861. It is the centre of an active and considerable commerce with the neighbouring valleys.

ARUNDEL, a burgh, m. town, and pa. of England, co. of Sussex, on the N. bank of the Arun, about 3½ m. from its embouchure, 55 m. SSW. London by road and 68½ miles by Brighton and South Coast railway. Pop. of pa. 2,498 in 1861. The town is pretty well built, and has a thriving appearance. It derives its entire consequence from its being immediately contiguous to Arundel Castle, formerly a strong fortress, now the magnificent baronial residence of the Dukes of Norfolk, having been rebuilt at a great expense by the late Duke. The possessor of this castle enjoys, without further creation, the dignity of earl. Previously to the Reform Act, Arundel returned two members to the H. of C., the right of voting being vested in the inhabitants paying scot and lot; but since the Reform Act it only returns one member. The constituency, in 1864, consisted of 192 registered electors, 51 of them being remaining scot and lot inhabitants, and the rest 101 householders. The Arun, which is here crossed by a neat bridge, is navigable thus far; and is joined by canals with the Thames on the one hand, and Chichester harbour on the other.

ARVERT, a town of France, dep. Charente, Inférieure, 24 m. W. Saintes. Pop. 2,627 in 1861. It is the chief place of the peninsula of the same name formed by the Gironde, the Seudre, and the sea. It has a considerable trade in wine, and fresh and salt fish, particularly sardines.

ARZAMAS, a town of Russia in Europe, gov. Nijni Novgorod, cap. district, at the confluence of the Choka and Tioncha, 62 m. S. Nijni Novgorod. Pop. 4,700 in 1858. It is old and ill-built; has twenty-two churches and two convents, with soap-works, tanneries, print-works, and iron-foundries. It has two great annual fairs.

ARZANO, a village of South Italy, in the immediate neighbourhood of Naples. Pop. 4,797 in 1861. It has numerous villas; and flax and hemp are largely produced in its environs.

ARZEW (an. *Arsenaria*), a sea-port town of Algiers, prov. Tlemcen, at the mouth of the Sigg, 80 m. NNE. Oran, lat. 35° 45' N., long. 4° 54' E. Pop. about 1,000. The bay is small; but, though open to winds from the E. and NE., it is the best on this part of the coast. The modern town, which is ill-built and inconsiderable, occupies the site of the ancient Arsenaria: fragments of columns, inscriptions, cisterns, and other remains of the ancient city, being scattered all round. Corn and salt are both exported. The latter is obtained from the salt pits of Arzew, about 5 m. inland.

ARZIGNANO, a town of North Italy, prov. and 10 m. W. Vicenza. Pop. 7,700 in 1862. It is situated in an agreeable plain, surrounded with

cultivated hills, and has filatures of silk, fabrics of cloth, dye-works, and brick-works. Its territory produces good wine, and has two coal-mines.

ASAPH (ST.), a city of N. Wales, co. Flint, and also partly in co. Denbigh, 185 m. NW. London. 5 m. N. Denbigh, finely situated in the Vale of Clwyd, on an eminence on the banks of the Elwy, near its confluence with the Clwyd, over both of which it has bridges. Pop. of parish 3,592; of parl. borough 2,063 in 1861. It consists principally of a single street; and is remarkable only as being the seat of a bishopric, worth 6,300*l.* a year. The cathedral, a plain building, was erected towards the end of the fifteenth century, but has since undergone many repairs: it is not used for public worship; the parish church, in the lower part of the town, being appropriated to that purpose. Drs. Barrow (uncle to the famous Dr. Isaac Barrow), Beveridge, Tanner, and Horsley, have been Bishops of this see; and in the cathedral is a handsome monument, erected in 1829, in memory of the celebrated Dean Shipley. It has a free grammar-school, endowed by Bishop Beveridge; and an almshouse for eight poor widows, endowed by Bishop Barrow. It unites with the other boroughs of Flintshire, in returning a m. to the H. of C.

ASARO, a town of Sicily, prov. Catania, 9 m. S. Nicosia. Pop. 2,968 in 1862.

ASCALON, an ancient sea-port town of Palestine, 15 m. N. Gaza, and 45 m. ESE. Jerusalem, lat. 31° 39' N., long., 34° 33' E. There is not a single inhabitant within the old walls, which are still standing; but a modern suburban village, called Scalona, from the ancient name, has a pop. of 300 or 400, and is frequented by the small vessels trading to this coast.

The ruins present a strange mixture of Syrian, Greek, and Gothic remains. There are also the remains of a Roman amphitheatre, and the columns of a temple, supposed to be that of the Syrian Venus, mentioned by Herodotus (l. § 105), or a Greek edifice raised in imitation of it.

Ascalon is exceedingly ancient. Before the establishment of the Israelites in Palestine, it was one of the lordships of the Philistines. Subsequently, it became one of the ports belonging to the tribe of Judah; and, on the downfall of the Jewish kingdom, it fell to the king of Assyria. It afterwards formed part of the Persian empire, then of the kingdom of the Ptolemies; and, on the subversion of the latter in the last century B.C., it was subjected to the dominion of Rome. It was a bishop's see in the first ages of Christianity; was conquered by the Saracens at the commencement of their conquests, and became the scene of more than one battle during the time of the Crusades. It was one of the strongholds of the W. Christians; but Saladin, on gaining possession of the town, destroyed its works. It has since continued in a state of decay: the prophecy of Zachariah, 'Ascalon shall not be inhabited,' and that of Ezekiel, 'It shall be a desolation,' are now considered actually fulfilled. Ascalon stands at the mouth of a stream (the Sorek), where the accumulation of soil is so great, that the ruins are every day removing farther from the sea.

ASCENSION, an island in the Atlantic Ocean, between Africa and Brazil, about 8 m. in length by about 6 in breadth, its fort being in lat. 7° 26' N., long. 14° 24' W. It is of volcanic formation, and one of its hills, of tufous limestone, rises to the height of 2,870 ft. It has a bleak and barren appearance; and was uninhabited till the imprisonment of Napoleon at St. Helena, when it was garrisoned by a small British force, through

whose exertions it has been partly cultivated and wonderfully improved. Springs of fresh water have been discovered. Vast numbers of turtle are taken on its shores. The climate is remarkably healthy, and the anchorage on the NW. side, opposite Georgetown, is said to be good. Georgetown is a station consisting of a fort, military quarters, and a few detached residences. The object in occupying it is that it may serve as a depot for stores, and a place for watering ships cruising on the coast of Brazil, or in the S. Atlantic Ocean. Its name is derived from its having been discovered on Ascension-day, the 20th of May, 1501, by a Spanish navigator in the service of Portugal.

ASCH, a town and lordship NW. frontier of Bohemia, circle Elnbogen, 14 m. NW. Eger. Pop. 6,850 in 1857. There are manufactures, cotton hosiery, woollen fabrics, and wire.

ASCHAFFENBURG, a city of Bavaria, circ. Lower Mürz, on a hill, on the Main, which is here crossed by a stone bridge, 88 m. NW. Würzburg on the railway from Würzburg to Frankfurt-on-the-Main. Pop. 9,800 in 1861. The town is indifferently built, and the streets are narrow and crooked. It has, however, a fine palace, formerly occupied by the electors of Mayence, to which magnificent gardens are attached. It has also an old Gothic church, containing the tombs of its princes, a town-hall, with a lyceum, a gymnasium, an ecclesiastical seminary, a school of design, a public library, and a collection of pictures. It manufactures tinted papers, and has a good deal of trade in timber, wine, and tobacco. It has also ship-building yards and a transit trade.

ASCHERSLEBEN, a town of the Prussian states, prov. Saxony, reg. Magdeburg, at the confluence of the Elbe and the Wipper, 14 m. ESE. Quedlinburg. Pop. 12,189 in 1861. It has five Protestant churches, one Catholic do., a synagogue, a gymnasium, two hospitals, and very considerable manufactures of woollen and linen stuffs, and earthenware.

ASCOLI, a town of Italy, in the Marches, cap. deleg. same name, on the angle formed by the junction of the Castellano with the Tronto, 15 m. above where the latter falls into the Adriatic, lat. 42° 51' 24" N., long. 18° 25' 15" E. Pop. 17,448 in 1861. It is a well-built, handsome town; has a cathedral and numerous churches, many of which are ornamented with valuable paintings by native artists. The church of St. Gregorio Magno consists principally of the remains of a Roman temple. Of modern buildings, the principal is the *Palazzo Auxiliare*, containing a museum, a library, and a theatre; there is also the palace of the governor, and numerous palaces belonging to resident nobles. Ascoli is a frontier town, on the side of Naples, and is a place of some strength, being surrounded by old walls and towers, and furnished with a citadel. Its harbour, at the mouth of the Tronto, is a good deal frequented by coasters, and is defended by two small forts.

Ascoli, the *Asculum Picenum* of the Romans, is one of the most ancient of the Italian towns. It is described by Strabo as a place of great strength, surrounded by walls and inaccessible heights. It was the first city to declare against the Romans when the Social War broke out: and, in the course of that war, it sustained a long and memorable siege against Pompey; by whom, however, it was finally taken. (Cramer's *Anc. Italy*, i. p. 288.) The area of the prov. is 809 sq. m. Pop. 196,030 in 1861.

ASCOLI DI SATRIANO (an. *Asculum Aprinum*), a town of South Italy, prov. Capitanata, 13 m. E. by S. Rovino. Pop. 5,720 in 1862. It is

situated on a hill; has a fine cathedral, a diocesan seminary, a hospital, and some convents.

This town is very ancient. It was under its walls that Pyrrhus encountered the Roman legions for the second time, with no decisive advantage on either side. It was almost entirely destroyed by an earthquake in 1400.

ASDOD (the *Ashdod* of Scripture, and *Asdotes* of the Greeks), a sea-port town of Palestine, on the coast of the Mediterranean. Lat. 31° 45' N., long. 34° 37' E., 35 m. W. Jerusalem, and 11 NE. Ascalon, on the summit of a grassy hill, surrounded by luxuriant pasture-grounds. Its present pop. is very limited, probably not more than 200 or 300. It has no ruins; and would be unworthy of notice, were it not for the figure it makes in sacred history. It was one of the five lordships of the Philistines (Phoenicians); and thither the Ark of the Covenant was brought when that people took it from the Jews. (1 Sam. v. 1.) It may be gathered, generally, that the Philistine power yielded to the arm of David (2 Sam. v. 29, *et seq.*, 1 Chron. xviii. 1); and it is probable that Ashdod became then a Jewish town. If this, however, were the case, it did not remain so; for, two hundred years later, the destruction of the walls of Ashdod is reckoned among the triumphs of Uzziah over the Philistines. (2 Chron. xxvi. 6.) It appears to have fallen into the hands of the Assyrians soon after this; and subsequently, according to Herodotus (II. § 157), stood a siege of twenty-nine years by the Egyptians, under Psammetichus. It is not afterwards heard of as a place of importance. The existing village is celebrated only for the number of scorpions that infest it. The water upon this part of the coast is shallow, and the land perceptibly gaining on the sea.

ASHANTEE, an extensive native kingdom of W. Africa, lying along the Gold Coast of Guinea; extending from 4° 37' to 10° N. lat., and from 4° 48' W. to 1° 10' E. long., being about 280 m. in length and as many in breadth. It may contain about 70,000 sq. m.

Physical Features of the Country.—Mountains and Plains.—This is a mountainous country, though it has few eminences very abrupt or precipitous. None of the mountains approach the snow line, being, like those of Africa in general, more remarkable for breadth and extent than for height. With regard to composition, all the species of granite, quartz, and slate are met with, but there is an almost total absence of calcareous stone. There are some small tracts of level land on the E. and W.; and the whole country N. of 7½° or 8° lat. is a large plain, terminated on the NW. by a mountainous country, called, from the nature of its surface, *Kong*, that is, mountain, and on the NE. by the sandy desert of Ghofan. (Isert, *Voy. Guin.* 249; Bowditch, 163, &c.; Dupuis, par. ii. 30, &c.; Capt. Adams's Remarks, 176.)

Rivers and Lakes.—Though not lying in the basin of any one of the first-class African rivers, few countries are better watered. Along the coast are found the embouchures of several respectable streams, the various affluents of which intersect the country in every direction. The Assinee, a large river, is usually reckoned the line of demarcation between the Gold and Ivory Coast; and forms, for some miles from its mouth, the W. limit of Ashantee. The Volta, or Asweda, the largest of the Ashantee rivers, runs into the sea in 80° E. long.: its length is estimated at about 400 m. There are several lakes which, in the summer season, frequently overflow their banks.

Climate.—*Soil and Natural Products.*—The heat and insalubrity of the climate of Guinea are proverbial, but both appear to be exaggerated. It

seems to be now admitted that countries under and near the equator are less hot than those under and near the tropics, the annual motion of the earth keeping the latter regions for a much longer period vertically beneath the sun. From this cause, therefore, the heat of Ashantee might be expected to be less than that of countries 12° or 15° farther N. The accumulation of water serves also to lower the general temperature, and, upon the whole, though during six months, or from October to March, the heat is extremely violent, during the other half year it is so far from being inconvenient, that fires and warm clothing are frequently desirable. The nights (always nearly of the same length) are cold, even during the hot months, and, in a night-halt in a forest, a blaze is as necessary against the cold heavy dews as against the ferocious beasts. The coast is, however, extremely unhealthy, especially to Europeans. This is owing partly to the scorching days followed by chilling nights, but more to a sulphureous mist (apparently a species of miasma) which rises from the valleys and the neighbourhood of rivers every morning, especially during the rainy season. Poor food, bad accommodation, and exposure to the night air, add to these evils, which are still farther increased by a want of regularity in living among both natives and Europeans; but, after all, the climate of this coast is not worse than that of most others similarly situated, and much superior to that of W. Africa farther N., or to that of Guiana, in the same lat., on the other side of the Atlantic. The interior, though covered with dense forests, and consequently exposed to the effects of vegetable decomposition under a vertical sun, enjoys a comparatively salubrious atmosphere; and Isert (p. 258) recommends the erection of hospitals, in the inland parts, for the benefit of sufferers from the European forts on the coast. The air is usually calm, except in the cases of tornadoes, and the wind from the desert, called Harmattan. The former, however, are pretty frequent, and, in the dry season, particularly annoying, from being followed by violent cold rains. The Harmattan is mostly experienced between the end of December and the beginning of February. It has a NE. or an ENE. direction; is perfectly dry, extremely cold, and loaded with an impalpable powder, sufficiently thick to obscure the sun at noon. It is exceedingly destructive; its dryness being such that it absorbs the moisture from every thing with which it comes in contact; opening the seams of ships, the joints of floorings, and destroying all animal and vegetable life opposed to its unmitigated violence. It blows usually for two or three days, but occasionally for a fortnight at a time, and with much force. Like other tropical countries, Ashantee has its dry and rainy seasons, or rather two rainy and one dry season in each year. The first rains, ushered in by violent tornadoes, occur about the latter end of May or the beginning of June; being followed by fogs and hazy weather, extremely pernicious and particularly powerful in July and August. The second rains come on in October, and thence till April is the dry and hot season.

A small part of the coast, towards the E. and W. boundaries, is sandy, but the greater portion, and all the interior, is an argillaceous and alluminous soil, mixed with a rich black earth. This, with the abundance of water, renders the country extremely fertile. From $7\frac{1}{2}^{\circ}$ N. lat. down to the water's edge, Ashantee presents a solid mass of forest, extending E. and W. from the Volta to the Assinee rivers. The trees have all the stupendous characteristics which mark African vegetation, but are strikingly different on the coast and in the interior. Near the sea flourishes the gigantic baobab

(*Adansonia digitata*), the cactus (probably introduced from America), the mangrove (*Rhizophora mangle*), various species of palm, the cotton, and other large trees, mixed with a wild entanglement of thorny bush, itself growing to a size inconceivable to a European. About 15 m. inland, on reaching the summit of the first mountains, the baobab disappears, but a tree equal in magnitude supplies its place; the mangrove also vanishes, and palms become very scarce, except the oliferous (*Elais guineensis*), and the viniferous (*Phenix*). Instead of these appear many peculiar species, among which is one tall tree of great elegance, bearing flowers like the tulip; a new kind of aloe and citron; and, in a word, a whole forest of trees unknown elsewhere.

N. of $7\frac{1}{2}^{\circ}$ or 8° lat., trees and shrubs appear only in widely distant patches, the lands are covered with jungle and Guinea grass, which grows to an enormous height and thickness; and which, being fired, is used by the natives to manure their plantations. The sugar-cane grows wild; and the country produces, besides, tobacco, maize, dhourra, millet, yams, rice, potatoes, and all the alimentary plants, in the utmost profusion. Of fruits the list is interminable; including the pine-apple, orange, banana, cocoa, fig, papay, and in short all that are produced in any part of the world between the tropics. Of gums and aromatic plants the list is very great; as is likewise that of dye and hard woods. The exuberant abundance of aloe, balsams (*Gloriosa superba*), tuberose, lilies, and amaranths, gives to the flora of Ashantee a splendour and magnificence nowhere excelled, and but rarely equalled.

The animals are as various and numerous as the plants. Elephants, rhinoceroses, giraffes, buffaloes, deer, antelopes, civet cats, apes, monkeys, baboons, porcupines, and goats, are among the harmless kinds; lions, tigers, leopards, jackals, wolves, wild boars, and wild cats, among those of a ferocious sort. The rivers swarm with hippopotami and alligators of several species; some of which are eaten by the natives. A gigantic rat, an odoriferous mouse, and a small animal called arampo (*man-eater*), which digs up and devours dead bodies, seem to be peculiar to Ashantee. The domestic animals are the same as those of Europe, but the horse is scarce, and of a bad breed, and the sheep peculiar in form. Reptiles are prodigiously numerous; serpents of every size, from the enormous boa to a frightfully venomous creature, scarcely a yard long, infest not only the woods and long grass, but the dwellings of the natives, and the forts of the Europeans. Scorpions (sometimes as big as a small lobster) and centipedes—the wound from which, though not dangerous, is extremely painful—abound in every place; and toads and frogs are not only as plentiful as in Europe, but the former grow to such a size, that Bosman, when he first saw one, took it for a land-tortoise (p. 257). Lizards of all sizes, from the iguana downwards, including two species of camelions, are found here. Of birds, there are pheasants, partridges, wild ducks (of a beautiful plumage), doves, crown birds, parrots, paroquets, Guinea sparrows, beccaficoes, and a multitude of all kinds, great and small, many of them yet unclassified by naturalists. The waterfowl are—herons, bitterns, and sea mews: the birds of prey—eagles, kites, and a peculiar species, which, though not larger than a dove, is bolder and more rapacious than any other. A large and ugly bird, called the pookoe (of great service in destroying the field-rats), is peculiar here, as is also a creature about twice the size of a sparrow, with a remarkable hollow and piercing voice, the sound of which is regarded by the na-

trees as of evil omen. The general characteristic of the Ashantee birds is extreme beauty of plumage; but pleasing voices are rare among them, the nightingale and thrush being the only songsters known. Sparrows and swallows are very numerous; and the domestic fowl are the same as those of Europe. The woods abound in bees; and the destructive species of ant, called *termes*, is so numerous and rapacious, that a sheep attacked by them during the night has been found a perfect skeleton in the morning. It is said they will attack any animal, even the most powerful and venomous serpent, and destroy him. Fire-flies, dragon-flies, a fly exactly resembling the cantharides in appearance and scent, together with all the insect tribes common to the Tropics, except the *musquito*, are found upon the coast; and in the interior, *Isert*, among a vast variety of species, observed several which appeared to be peculiar. The locust is not wholly unknown, but its destructive visits are rare; owing probably to the great distance of the desert, and the intervention of high mountains between it and Ashantee. Black and hump-backed whales are numerous on the coast between September and December. Sharks are very numerous, are frequently captured, and form the most common food of the Gold Coast negroes. Other sorts of sea fish are very abundant; and the rivers are as well supplied as the sea, yielding, among others, great quantities of oysters and crabs, which feed upon the branches of the mangrove and other trees, but are not good for food if the water be fresh.

Population, Habits, Manners, and Customs.—Bowditch estimates the pop. of Ashantee Proper at 1,000,000; of whom 204,000, he says, are warriors; 101,000 children under ten years; 50,000 boys between ten and sixteen; 7,000 old men; and 688,000 females; and the pop. of the whole empire may, perhaps, be somewhere about 3,000,000. The men are well made, more muscular on the coast than in the interior, and free from the more revolting peculiarities of negro form and feature. The higher order of females (those not subject to hard labour) may be said to be handsome, with features rather of an Indian than an African mould. Both sexes are cleanly, washing from head to foot every day, and afterwards anointing themselves with the grease of the shea, or butter-tree; a good cosmetic, and a preservative of the skin in this hot climate. The clothes of the better classes are convenient, and not ungraceful, consisting of immense cloaks, exactly like the Roman *toga*, manufactured of the most costly silks. The war-dress substitutes for this a close vest, covered with metal ornaments and scraps of Moorish writing, as spells against danger, loose cotton drawers, and large boots of dull red leather. The superior chiefs have gold breast-plates; and all who can procure them, wear gold ornaments in profusion. Some of these are well wrought, others are merely lumps of rock-gold hung to the wrist: the war-cap consists of gold or gilded rams' horns, supporting an extravagant plume of eagles' feathers. In peace, the head-dress is usually a fillet. The lower orders wear nothing but a piece of cloth fastened round the waist. Bosman enumerates five degrees, or orders of society;—the king, the caboceers, the gentry, the traders, and the slaves. Besides the king, however, there is, in fact, but one distinction, that of slave and freeman. The caboceers, or magistrates of towns and villages, are taken indiscriminately from the gentry; and these, again, are merely such as have enriched themselves by trade or inheritance, and who, not unfrequently, were born slaves. The occupations of trade are practised alike by the poorer freemen and the better

class of slaves. The intercourse between the sexes is on the worst possible footing. Marriage is effected by paying a sum of money to the parents of the girl, and a family feast. The property of the man and woman does not become common. Polygamy is allowed. Few, however, except the richest individuals, have more than one wife, and very many have none; for the husband having unlimited power of life, limb, and liberty, over his wife (and prostitution being noways discreditable), females frequently refuse to marry; the father, in such cases, never attempting compulsion, but instantly disclaiming all future interest in his daughter. Infants are not unfrequently married to infants. The food of the higher classes consists of soup of dried fish, fowls, beef, or mutton; wild hog, deer, and monkey's flesh, together with the variety of vegetables which the soil produces. Well-stocked and well-regulated markets are held in the towns, for the supply of these necessities, as well as for articles of clothing and European manufacture. The poorer classes, excepting household slaves, live almost exclusively on fish and *dhourrah*. The common drink is palm-wine.

The Ashantees have two high festivals; one annually, at the yam harvest, in September; the other at intervals of about twenty-one days. The last is called the *adai* custom, and alternately the great and little *adai*. It forms the calendar; the year, which commences in October, being divided by it into equal parts, and terminated by the great yam festival. At these festivals, as on all public occasions, the most brutal excesses and cruelties are practised. The skulls of all the kings and chiefs whose fall has swelled the power of the reigning monarch, together with those of rebellious caboceers, to the amount of more than 200, are paraded before the assembled multitude. Rum and palm-wine are swallowed like water, till the guests are brought to a state of intoxication and madness, when hundreds of human victims are sacrificed. They seem, in fact, to delight in cruelty and blood. The death of a free person is, in almost all cases, attended by the slaughter of a human being, to '*wet the grave*;' and that of a chief invariably causes a frightful sacrifice of life. If a man of ordinary rank marry a royal female, he must be killed on his wife's grave, should he happen to survive her; and the *ocras* (personal attendants on the king) are all murdered on their master's grave, together with many others, male and female, often amounting to some thousands. Cannibalism, as far as respects the blood and heart of an enemy, is practised, though not avowed; and the teeth and smaller bones of vanquished foes are ostentatiously worn as ornaments; the skulls and larger joints being preserved as public trophies. Such are the disgusting enormities perpetrated by this nation of savages; who, if they contrast advantageously with other negro tribes in energy and decision of character, yield to none in that cruelty and bloodthirstiness which seem to be leading features in the African character. To complete their character, it may be further observed that they are great thieves and extraordinary observers of etiquette.

Industry and Commerce.—The labour of clearing away obstructions in a rankly luxurious soil is the chief employment of the Ashantee agriculturist; and in this his chief instrument is fire; by means of which he both clears the ground, and spreads a mass of rich manure upon the soil. The only implement in use is a rude hoe; but this is sufficient, in productive grounds, flooded twice a year, to produce two crops of most kinds of corn, and an abundant supply of yams and rice. The plantations are laid out with considerable order

and neatness, and the cultivated grounds are pretty extensive, though inadequate to the wants of the consumers. Despite the fertility of the soil, the approach of harvest is almost always preceded by scarcity, if not by famine. Though they do not smelt metals, the Ashantees, like several of the African nations, have blacksmiths and goldsmiths of a superior grade to what might be expected. The former manufacture all their arms (except muskets), razors, &c. The goldsmiths forge sundry ornaments, as rings, chains, and brooches, and cast figures of tame and wild beasts. They are also the great idol-makers, and are able to produce fine gold thread. The fineness, variety, and brilliance of the cloths of the native weavers would not disgrace an English loom; the patterns are painted by means of feathers, with sufficient regularity to have the appearance of a coarse print. Dyers, potters, tanners, and carpenters complete the list of Ashantee artificers; of whose handiwork a number of manufactured and other articles, in case 6, room 1, of the British Museum, are specimens. The houses, generally of one story, are thatched, and the external walls decorated with a rude hieroglyphic sculpture: they are usually painted, but not floored, and pretty closely resemble an English barn. It should be mentioned, to their credit, that all good houses have their cloaces, which agrees well with the Ashantee character for cleanliness; and evinces, in this respect, a superiority to most other negro nations. Commerce with Europe having now been carried on for some centuries, the natives have become shrewd and expert dealers: they practise all sorts of frauds; and their dexterity in adulterating gold equals that of a first-rate chemist. Barbot (230) affirms that the Portuguese taught them this art, as a means of driving the other European nations from the coast; and if this be true, they have shown themselves, in this instance, much more expert scholars than in any other. Gold is now, perhaps, the chief article of export; and some little is also done in the way of exporting ivory, and dye and hard woods. Slaves are exported on every possible opportunity; and notwithstanding the vigilance of the British cruisers, there is reason to think that considerable numbers find their way across the Atlantic. The imports are principally muskets and other arms, gunpowder, spirituous liquors, tobacco, iron, tin, copper, lead, with cotton and Indian goods, which are taken, chiefly for their colours, to be unravelled and remanufactured in the native looms. The last-mentioned articles are, however, received chiefly through the interior from Dagomba and Fezzan, with which the Ashantees maintain a very extensive trade, supplying them in return with liquors, iron, and other European commodities; but never with arms. The currency is gold, either in dust or small lumps; but the cowrie-shells, in use farther N., are not unknown. The denomination and values may be given as follows:—200 cowries (5 strings) = 1 tokoo (about 8d.); 8 tokoos = 1 ackie; 16 ackies = 1 newemeen (ounce); 2½ ounces = 1 benda; 1½ benda = 1 perguin.

Government, Constitution, Laws, Revenue.—Before the power of the Ashantee king had swallowed up that of the other states, each possessed its own peculiar form of government and administration; some, as Fantee and Mina, were republics; others, and by far the greater number, were despotisms; but now all are alike brought under the Ashantee constitution; the legislative power of which lies professedly in the king, an aristocracy, consisting of only four persons, and the assembly of caboceers or captains. The aristocracy was formerly much more numerous; but Sai Cudjo, who reigned be-

tween 1758 and 1785, began to reduce it, by uniting the stool (seat of authority) of a deceased noble to that of one still living (Bowditch, 236); and this plan has been successfully pursued, till the present result is the consequence. On all questions of foreign policy, the aristocracy have a voice equal to the king's, extending even to a veto on his decisions. In domestic affairs they have considerable influence; but it is exercised in both cases privately, the public announcements always appearing to emanate from the sole will of the monarch. The assembly of caboceers has no deliberative voice; they are mere recipients of the laws promulgated by the king and aristocracy, to which, by their office, they are bound to give effect in their several governments. The influence of the aristocracy is curbed by their poverty; they are privileged from capital punishment, but may be despoiled for any offence; a regulation that has made and keeps them beggars; and thus, in effect, though not in form, the monarch is absolutely despotic. He is also heir to the gold of every one. The king's family are not exempted from capital punishment, but their blood must not be shed: if death be awarded them, they are drowned in the Dah. Death is the punishment for cowardice; for picking up gold dropped in the market-place; for killing *an equal*; for treason; and, in some cases, for theft and adultery. The common punishment for the latter is, however, fine, or, if committed in the open air, slavery; for the former, restitution by the friends of the thief. Mutilation is inflicted for many offences; but all accusations are mostly made at the peril of the accuser, who, if he fail to establish his charge, must himself undergo the penalty of the offence. The state of the country, as respects security, may be inferred from the fact that interest of money is at 33½ per cent. for forty days, and the creditor has the power of seizing his debtor and family as slaves. Two or three species of ordeal are practised in doubtful cases; one of which consists in making the accused chew about ¼ of an ounce of a poisonous bark, and then drink three or four calabashes of water. If he vomit, he is pronounced innocent; but if his stomach be potent enough to retain the poison, it is held to be a conclusive proof of guilt. The revenue, as far as it can be ascertained, consists of—1st. The gold of deceased persons, and the goods of disgraced nobles, 2nd. A tax on slaves purchased for the coast, 3rd. The gold mines and washings in Sokoo, Dinkra, Akin, and Assin. 5th. The washings of the market-place. 6th. Tributes from the recently conquered states, varying from 50 bendas to 200 penguins of gold annually. In some cases this tribute is taken in kind, the largest amount for any one town being 500 slaves, 200 cows, 400 sheep, 400 cotton cloths, and 200 silk cloths.

Religion.—The allegory of 'The Book and the Calabash' is prevalent through all the Gold Coast and the states of Ashantee. The Great Spirit, after creating three white and as many black men and women, placed before them a large calabash and a sealed paper, giving to the black race the choice of the two. They took the calabash, which contained gold, iron, and the choicest productions of the earth, but left them in ignorance of their use and application. The paper, on the contrary, instructed the white men in every thing; made them the favourites of the Great Spirit; and gave them that superiority which the negroes always readily acknowledge.

From this legend it is clear that they have some notion of one supreme deity; but they have, notwithstanding, lapsed into the absurdities of Fetishism (see AFRICA), or of the lowest and grossest species of idolatry. They have an evil principle;

of whom they stand in great dread, but it is denied that they pay him adoration. On the contrary, it is said that one of the most solemn ceremonies of many tribes is an annual assembly of men, women, and children, to drive the evil spirit from the towns and villages. They have a fixed belief in a future state—kings, priests, and cabocers being believed, after death, to reside with the Great Spirit, in an eternal renewal of their earthly state: and it is said that the sacrifice of so many human beings on the graves of their kings is intended to supply them with attendants in the future world. The victims also, it is affirmed, are not altogether averse from this sacrifice; since by it they believe they will partake the superior heaven of their chiefs; their own being, at best, merely a release from labour in the house of some inferior Fetish. An uncommon number of charms, omens, lucky and unlucky days, and an implicit submission to the Fetish, complete the superstition of the Ashantees. In some tribes, Tuesday is observed as the general Fetish day or Sabbath: but different families generally consecrate different days; all, however, observing one. There are many Mohammedans among the Ashantees; some, by their lighter complexion, attesting their Arabic origin; but the majority are not distinguishable from the other negroes. They have great influence in the court of Coomassie, are subject to their own officers in all spiritual affairs, and, where very numerous, as is the case in several towns, are governed by them also in temporal matters.

Language.—The European who has observed the affinities among the languages spoken in his own division of the world, the W. of Asia, and even the N. of Africa, is ill prepared for the Babel of tongues that prevails S. of the Sahara. In 60 m. of the Gold Coast, no fewer than seven or eight languages are found, each unintelligible to the tribes speaking the other, and bearing no relation whatever to any other. (Bosman, iii.) Bowditch (Appendix, p. 503) gives the numerals of thirty-one tribes, whence it appears that, though some few may be considered as variations from the same root, the majority do not assimilate in the slightest degree. The Ashantees, Fantees, Woossas, Akinese, Assinese, and Aquapims, speak dialects of the same language; but for the rest of the tribes that make up this barbarian kingdom, an imaginary line often separates two who possess no means of social intercourse. This formidable obstacle to all communication is, no doubt, a chief cause of the continued degradation of the negro race, more especially as none of their languages possess symbolical characters. In Ashantee, as in other parts of Africa, the only persons who can read or write are the Moslems, and the only written language the Arabic.

History.—The Ashantees have two traditions as to their first establishment in their present homes; first, that they came in twelve tribes from a country nearer the sea; the other, that they were driven from the interior by the Mohammedan conquests in the first days of Islamism. It may be that these accounts, though apparently contradictory, are but different versions of the same tale. It seems certain that the Ashantees were, in 1640, seated in the centre of their present possessions, and occasionally exercising an influence over the surrounding states of Akim, Asin, Quahou, and Akeya. Then, and for near a century later, the paramount state of the gold countries was Dinkra; but in the beginning of the eighteenth century, the king of that country having deflowered a wife of the Ashantee monarch, the latter, though considered a very inferior po-

tentate, invaded the Dinkran territories, defeated his enemies in two decisive battles, killing, it is said, 100,000 men, and carrying off immense plunder. Dinkra, upon this, became attached to the Ashantee dominions, and from this epoch the extension of the latter proceeded rapidly. One by one the different states between the Assinee and Volta rivers were subdued; and, in 1807, the invasion of Fantee brought the Ashantees into collision with the British. Cape Coast Castle, the principal fort of the English on the Gold Coast, was in the Fantee country, and held, like the other European forts upon that coast, not as a territorial right, but at a rent from the native government. After the conquest of Fantee, the rent was claimed by and paid to the king of the Ashantees; but some difficulties made about recognising his sovereignty, led to much discussion, and to two embassies (those of Bowditch and Dupuis) to the court of Coomassie. In justice to the king it must be admitted that, whatever may be thought of his conduct to the natives, an uncommon degree of forbearance marked his behaviour to the British authorities. The treaty concluded by Dupuis in 1820 was not ratified by the council at Cape Coast Castle, because, by the fifth article, it recognised the questioned sovereignty of the Fantee country; but the heart-burning necessarily consequent on this step did not break out for some time after. The death of Sai Quamina (king of Ashantee), who, according to Dupuis and Bowditch, was the steady friend of the whites, seems to have been the signal for hostilities. His successor declared war against the English; and on the 21st of January, 1824, Sir C. McCarthy, governor of Cape Coast, at the head of 1,000 men, was totally defeated by the Ashantees. It took almost three years before the English power on the Gold Coast recovered from this blow; but in 1826, the Ashantees having suffered a ruinous defeat, consented to pay 6,000 oz. of gold as the price of peace, and to send the king's son for education, or rather as hostage, to Cape Coast Castle. In 1831, a treaty was signed between Governor Maclean, the Ashantees, and the Fantees, by which the King of Ashantee was compelled to acknowledge the independence of these and the other tribes under British protection. The Ashantee power on the coast, since this event, may be considered as nearly destroyed.

ASHBOURNE, a m. town of England, co. Derby, on the E. side of the Dart, 122 m. NW. London, 13½ NW. Derby. The parish, in which the town is situated, had, in 1831, 4,884 inhab., and 5,078 in 1861. It has an old church with a fine spire, a free grammar-school, two elementary schools, one for thirty boys, and the other for thirty girls, almshouses for poor men and women, and some other charitable institutions. Dovedale, famous for its romantic beauties, is in the immediate vicinity of this town.

ASHBURTON, a borough m. town and par. of England, co. Devon, hund. Teignbridge, the borough being situated within 1½ m. of the Dart, on the high road from London to Plymouth, 170 m. WSW. London, and 19 m. SW. Exeter, on a branch line of the Great Western railway. The parish contains 8,320 acres, and had, in 1831, a pop. of 4,165, and 3,062 in 1861. The town has a handsome Gothic church, with a tower, 90 ft. in height, a grammar-school, and free schools, which supply elementary instruction to about 100 children. It is the seat of one of the stannary courts. Serge and similar articles are manufactured, and there are tin and copper mines in the vicinity. Previously to the Reform Act, Ashburton returned two m. to the H. of C., the franchise being vested

in freeholders having lands and tenements holding of the borough only. The Reform Act deprived it of one m., and made the boundaries of the parish and parl. borough identical. The constituency consisted, in 1865, of 282 registered electors, two being old freeholders, and the rest 104 householders. Ashburton was the birthplace of Dunning, the famous lawyer, who was created Baron Ashburton; and of William Gifford, the translator of Juvenal, and editor of the Quarterly Review, who, on his death, left a legacy to the town. It now gives the title of Baron to the head of the family of Baring.

ASHBY-DE-LA-ZOUCH, a m. town and par. of England, co. Leicester, hund. W. Goscote, 116 m. NW. by N. London, on the Midland Railway. The par. contains 8,300 acres, and had in 1861, 6,958 inhabitants, of whom 3,772 belonged to the town. The latter consists of one main street, and some smaller ones; has an old church; several free schools, for girls as well as boys; and manufactures, on a small scale, woollen and cotton stockings, and hats, and has some trade in malting. In the vicinity are the extensive remains of Ashby Castle, built by Lord Hastings, in the reign of Edward IV., and dismantled in that of Charles II.

ASHFORD, a m. town and par. of England, co. Kent, lathe of Scray, the town being situated on an eminence near the junction of the upper branches of the Stour, 47 m. ESE. London by road, and 67 m. by South Eastern Railway. The par. contains 2,950 acres, and had 6,950 inhab. in 1861. The church, a Gothic fabric of considerable note, has a lofty well-proportioned tower, and several ancient monuments. There is a free grammar-school of some eminence, founded in the reign of Charles I., and some other charities.

ASHRUFF, a town of Persia, prov. Mazanderan, about 8 m. from the W. extremity of the bay, and 52 m. W. from the city of Asterabad. Near it are the ruins of an extensive and magnificent palace, built by the greatest of the Persian monarchs, Shah Abbas. The town, which was in a great degree dependent on the palace, has been seriously affected by the decay and ruin of the latter; and does not contain above 500 houses, thinly scattered through an extensive jungle. (Fraser's Caspian Sea, p. 19.)

ASHTON-UNDER-LYNE, a pa. of England, co. of Lancash., hund. Salford, 6 m. long. N. to S., 4 m. broad; area 9,800 acres. Pop. in 1801, 15,632; 1821, 25,967; 1881, 38,597; 1841, 46,304, and in 1861, 66,801, of whom nearly half resided in the town of Ashton, and the residue principally in the hamlets of Lees, Mossley, Audenshaw, and part of Staley-bridge. Surface level, soil marshy and poor. But the inferior quality of the soil is compensated by the abundance of mineral products, coal of good quality and in the greatest abundance being found in almost every part of the parish. From this circumstance and its proximity to Manchester, of which it may be regarded as a dependency, the parish has become a principal seat of the cotton manufacture, most part of the population being engaged in and dependent on its various processes. Stout printing calicoes and ginghams are the articles principally produced. The manor and ecclesiastical patronage belong to the Earl of Stamford, who derives a large income from the parish.

ASHTON-UNDER-LYNE, a m. town of England, co. of Lancashire, in the above pa., on the N. bank of the Tame, 187 m. NW. by N. London, and 6½ m. E. Manchester, on the London and North Western railway. Pop. in 1821, 9,220; 1831, 14,670; 1841, 22,514, and in 1861, 34,856.

The town is well laid out, well built, and is eminently thriving. Its rapid growth is owing to the still more rapid extension of the cotton manufacture. In 1864 there were about ninety cotton mills at work in the town. Among the public buildings are an old and a new church, with numerous chapels and other places of worship, a court-house, a theatre, concert-room, and an excellent market. The free school is but slenderly endowed; but there are several other schools, with a mechanics' institute and large Sunday schools. The Ashton, Staley-bridge, &c., Banking Company, established in 1836, has its head office in the town; and here, also, the Manchester and Liverpool District Banking Company, and other banks, have branches. Market-day, Saturday. There is a cattle market on the first Saturday in each month. Fairs, March 23, April 29, July 14, 15, and 25, Nov. 10 and Nov. 21.

Ashton is admirably situated for trade and manufacture, in the centre of a populous neighbourhood, having an unlimited command of coal, and communicating by means of canals and railways with all parts of the empire. It was anciently a borough, but for some cause or other has long been disfranchised. The Reform Act conferred on it the privilege of sending one m. to the H. of C. It had, in 1864, a constituency of 1,062 registered electors, the whole of them being 104 householders.

ASIA, the largest, earliest civilised, and in many respects the most interesting of the great divisions of the globe, extends from 1° 20' to 78° N. lat., and, when the islands belonging to it are included, from 1° 19' S. lat. From W. to E. it extends from 26° to 190° E. long. The most northerly point of the continent is Cape Taimura, 78° N. lat.; the most easterly, Cape Tshukotkoi Noes, 190° E. long.; the most southerly, Cape Burus, 1° 20' S. lat.; and the most westerly, Cape Baba, in Asia Minor, 26° E. long. Cape Taimura and Cape Burus are more than 5,300 m. distant from each other, and this consequently is the extent of Asia from N. to S. Its greatest breadth occurs under the parallel of 40° N. lat., between Cape Baba and the E. coast of the Corea, where it extends about 5,600 miles from W. to E. Its surface is supposed to cover about 17,500,000 sq. m., being above four times the area of Europe.

I. SKETCH OF ASIA.—On the N. Asia is washed by the Arctic Sea, which separates it from the Arctic countries of America; on the E. by the Pacific Ocean, which divides it from the continent of America; on the S. by the Indian Ocean, which lies between it and Australia; on the W. it is continuous with Africa and Europe. The boundary line between it and Africa is formed by the Gulf of Aden, the straits of Babelmandeb (where both continents are only about 16 miles apart), the Red Sea and the Isthmus of Suez, where both continents unite for about 70 miles. Asia is separated from Europe by the Mediterranean Sea, the Ægean Sea, or Archipelago, the straits of the Dardanelles, the Sea of Marmora, the channel of Constantinople, and the Black Sea. From the eastern shores of the latter sea the boundary-line runs along the crest of Mount Caucasus to the Caspian Sea, which constitutes the boundary as far as the mouth of the river Oural. Thence it follows the course of that river up to its source in the Ourlian Range, which latter forms the remainder of the boundary line to the Gulf of Kara, E. of the island of Novaia Zemlia.

To the S. and SE. of Asia is the greatest of all archipelagos, containing many thousands of large and small islands. These belong partly to Asia, and partly to Australia, but they are not separated

by any natural boundary. When the Portuguese and Spaniards began to be acquainted with the islands of India, they conquered or settled those only which were supposed likely to repay the expense and trouble. These were then, and are still, considered as belonging to Asia. The others, which did not offer such advantages, and were not settled or visited at that time, are now included in Australia. In this way, Japan, Formosa, the Philippines, the Moluccas, and that long chain of islands which, in the east, begins with Timorlant, and on the west terminates with Java, are considered as belonging to Asia, whilst the numerous islands dispersed between the Moluccas and New Guinea, and lying at a short distance from the former, are included in Australia.

In looking at the map of Asia, we are struck by observing, that the Pacific Ocean, which divides it from America, nowhere reaches immediately to the coasts of the continent, but is separated from them by several chains of islands, which, with the coast, form a number of smaller sea-basins. The most northerly of these sea-basins is the *Sea of Kamtschatka*, lying between the NE. extremity of Asia and the NW. of America, and separated from the Pacific by the Aleutian Islands. The Kurilian Islands, extending from Cape Lopatka to Yeso, the most northerly of the islands forming the empire of Japan, separate another sea-basin from the Pacific; it is called the *Sea of Okhotsk*, from the large island forming its W. side, and commonly called Saghalien. Farther S. lies the *Sea of Japan*, shut up by the islands constituting that empire and the opposite coasts of Manchouria and Corea. Then follows the sea called *Tung-Hai* (Eastern Sea) by the Chinese, with its extensive northern gulf the Wang-Hai (Yellow Sea). This basin is more open towards the Pacific, its entrance being shut up only by two or three small groups of islands, among which the Loo Choo have obtained some celebrity in later times. The Island of Formosa forms the southern boundary of this basin. From this island to the equator extends the *Han-Hai* (Southern Sea) of the Chinese, called by the Europeans the *Chinese Sea*, because it is traversed by them in their voyage to China. The eastern boundaries of this basin are the Philippines and the islands of Palawan and Borneo, and it forms two great gulfs in the continent, those of Tonkin and Siam. The formation of these five sea-basins is partly owing to the three great peninsulas, which project from the continent, the peninsula of the Tshuktsches, occupying 60,000 sq. m., and those of Kamtschatka and Corea, which are nearly of the same extent.

The S. coast of Asia is not surrounded by close seas, but is quite open to the Indian Ocean, except where it borders on the Chinese Sea; but in these parts are several gulfs which deeply penetrate into the continent, and thus form extensive peninsulas. The principal are the Bay of Bengal, the Sea of Arabia, the Persian Gulf, the Gulf of Ajan, and the Red Sea, separating Asia from Africa. The peninsulas which occur on this side are those of India without the Ganges, which has an area of nearly 800,000 sq. m., India within the Ganges and Arabia. Each of the last mentioned comprising upwards of a million sq. m.; the three together being nearly equal to Europe in extent.

Where Asia approaches Europe, we meet the large peninsula of Asia Minor, covering a surface of more than 200,000 sq. m., which being surrounded by the Mediterranean and Black Sea, facilitates the intercourse of both continents by sea as well as by land.

The N. coast of Asia, indented by numerous

deep bays, and having several projecting tongues of land, would give great advantages to maritime intercourse with other countries did the severity of the climate not render them inaccessible all the year round. They are nearly everywhere enclosed by ice.

1. *Great Northern Plain.—Conformation of the Surface.—Rivers.*—Along the coasts of the Arctic Sea, always covered with ice except in the summer months, when it is open along the shores to a distance of a few miles, extends the greatest plain of the globe. This plain not only covers nearly the whole of Northern Asia, but advances westward, extending over the east of Europe, and reaching to the very shores of the North Sea opposite Great Britain. We may even affirm that the low and level countries which in England occur along the North Sea between the Thames and Humber, constitute the farthest W. corner of this vast plain. For, a traveller departing from London and advancing eastward between the parallels of 52° and 58° N. lat. as far as 85° E. long., and hence between 55° and 56° N. lat., will arrive at Takutzk, on the river Lena (180° E. long.) without having passed any mountain-range. The highest ground in his way would occur about 66° E. long., between the river Oural and the sources of the Tobol, where a chain of hills rises, but only to an absolute height of less than 2,000 ft. In this long journey he would have traversed 180 degrees of long., or more than a third part of the curvature of the earth, and this is the length of the great plain in this parallel. But along the Arctic Sea it stretches farther east, and terminates at 165° E. long. on the banks of the river Kolyma.

This plain would extend from the Atlantic to the Pacific Sea, but for two mountain-ranges, which rise at its W. and E. extremities like high walls, to protect it against the encroachments of the sea. At its W. extremity are the Scandinavian mountains, lying NNE. and SSW. At its E. extremity are, first, the Yablonoi mountains, and then the Verkhoianskoi and Stannovoi mountains, which extend from the S. limits of the Russian prov. of Zabaikalskaya, E. of Lake Baikal, in a NE. direction, until they terminate on Behring's Strait. This range occupies a considerable width, being probably nowhere less than 150 m. across, but does not rise to a considerable height, the highest of its summits which have been measured attaining only 4,055 ft. above the sea, and its mean elevation being estimated at less than 2,000 ft. Its N. branches fill up the whole country between the peninsula of Kamtschatka and the Polar Sea with mountains of moderate elevation, many of which, however, are always covered with snow on account of their high latitude near the Polar Circle.

It is worthy of remark, that in the seas adjoining the two boundary ranges, two of the most active volcanic systems are met with. To the west of the Scandinavian mountains a great number of volcanoes are placed on the island of Iceland, and, as it seems, also on the neighbouring island of Jan Mayen. On the east of the Yablonoi and continuing ranges, the peninsula of Kamtschatka offers a similar phenomenon. It seems that the chain of mountains is mostly covered with volcanic matter, and several very high summits are still active volcanoes. The highest of the two summits of the volcano of Shivelush rises to 10,591 ft. above the sea, and that of the volcano Kliutshewsk even to 15,825 ft. The tracts of low land which extend along the sea-coasts of this peninsula are partly covered with thick forests, and partly with fine grass, but neither agriculture nor the rearing of cattle is attended to, the very

scanty population finding it more easy to get its subsistence by fishing.

Besides the ranges forming the boundary of the plain to the E. and W., it is nearly in its middle traversed by another chain, the Ouralian mountains, which run nearly due N. and S., on both sides of 60° E. long. This range, which in breadth occupies hardly anywhere more than 50 or 60 m., exhibits near its N. extremity a few summits which rise to from 4,000 to 5,000 ft. But the mean elevation is probably not more than 2,000 ft. above the sea. Between 56° and 54° are also some summits which attain between 4,000 and 5,000 ft. At the sources of the river Oural the range lowers considerably, and divides in several ridges; of which one, called the hills of Mugodsharsk, advances in a SW. direction, and terminates on the plain which divides the Caspian Sea from the lake of Aral. Thus this chain does not join the mountain-ranges in the interior of Asia.

Nearly in the middle of the S. border of the Great Plain, on both sides of the hills of Mugodsharsk and the countries lying S. of it, between 45° and 64° E. long., occurs the most remarkable depression on the surface of the earth. A tract of country, extending over an area of more than 300,000 sq. m., exclusive of the Caspian Sea, is, according to the supposition of Humboldt, lower than the surface of the ocean. The lowest part of it is occupied by the Caspian Sea, which was supposed by Humboldt to be no less than 348 ft. below the surface of the Black Sea; but later, and it is believed, more correct, measurements make the level of the Caspian Sea only 116 ft. below, and that of the Lake of Aral 14 ft. above, the level of the Black Sea. According to Humboldt, this depression extends between the rivers Kooma, Volga, and Oural, up to a line drawn from Saratow to Orenburg, whence its boundary runs to the Lake of Ak-sa-kal (48° N. lat., and 63° E. long.), and then includes the countries traversed by the lower courses of the Sir-Daria (Sihoon, *Jaxartes*) and Amoo-Daria (*Orus*), consisting principally of the state of Khiva, on the course of the latter river. This country is so little elevated above the great lakes, which lie in the midst of it, that a strong north-westerly wind of some continuance forces their waters over many miles of the adjacent tracts. Its soil consists partly of sand, and partly of hard clay, on which neither trees nor shrubs grow, and which only in spring, after the melting of the snow, is covered with a scanty but nourishing grass and numerous flowers. It is only used as pasture by the nomadic tribes which wander about in this desert. Natural wells are nowhere found, but water is met with on digging some feet down in those districts which have a sandy soil, but not in those where it consists of clay. Along the banks of the watercourses trees and shrubs grow, and the soil is fit for agricultural purposes, but is commonly used as meadows.

Along the shores of the Caspian Sea this low and desert country extends to the very edge of the table-land of Iran (Persia), where it terminates between 36° and 37° N. lat., but from the table-land of Eastern Asia it is separated by a mountain region, which comprehends the countries of Khokan and Badakshan, and between them and the desert extends Bokhara, whose surface is broken into ridges of moderate height, and valleys of considerable width, which, being watered by artificial means, are very productive of all kinds of grain and fruit. This country, therefore, offers a succession of fertile and sterile tracts over the whole of its surface.

The Caspian Sea, which covers a surface of 120,000 sq. m., is very deep towards its S. ex-

tremitry, where it is surrounded by the mountain-ranges of Iran, but where it borders on the desert it is shallow. Its waters are salt. The Lake or Sea of Aral, lying farther east, has a surface of between 40,000 and 50,000 sq. m., and its waters are likewise salt, as is the case with all the numerous smaller lakes which occur in the above-mentioned depression. The Lake of Aral receives the two largest rivers which drain the S. parts of the desert, and descend from the table-land of E. Asia. The Sir-Daria, which in its upper course flows through Khokan, runs about 950 m., and the Amu-Daria, which rises in Badakshan, and flows along the southern boundary of Bokhara, and afterwards through the desert and Khiva, has a course of nearly 1,100 m.

The Oural dividing Asia from Europe, the great plain is divided between these two continents. Though that portion of it which belongs to Europe has immense tracts of very fertile land, especially in the centre of Russia, the plain of Siberia nowhere exhibits such a soil. Those parts which lie contiguous to the great depression, and as far E. as 82° E. long., are steppes, that is, level countries with a sandy, gravelly, or clayey soil, destitute of trees, except along the bottoms of some of the rivers, and covered partly with low shrubs, and partly with coarse grass, which affords only very scanty pasture. In most parts they are destitute of water. The great steppe of Barabinskaja, between the rivers Yrtish and Obi, is partly covered with large swamps, and intermingled with numerous salt-lakes, some of considerable extent; the remainder has a dry sterile soil, but when it begins to rise in hills towards the Altai range, many districts are fit for agriculture, and are cultivated. This last observation applies still more to the countries farther E., between the rivers Obi and Yenesei, where agriculture has already advanced from 56° N. lat. to Krasnoyarsk. This portion of the plain is considered the granary of Siberia. Its surface is rather hilly. The countries lying east of the Yenesei do not exhibit a level plain, but rather an undulating surface, which in some parts is even broken. But as the climate is less mild than farther west, agriculture is only pursued in a comparatively few sheltered places, and the rearing of cattle and the chase afford subsistence to its scanty population. This part of the plain is covered with immense forests of pines, birch, &c., of which the W. steppes are destitute, and its pastures are also much richer. That portion of the plain which extends N. of the Polar Circle has its surface frozen ten months of the year, and even in July ice is met with at the depth of a foot. It is an immense desert, covered with moss, and interspersed with numerous lakes and swamps. In summer its whole surface is changed into a swamp, and then it is inaccessible. This mossy desert is called *tundra*. It is worthy of remark, that at the mouth of the Lena, and between it and that of the Indighirka, immense masses of bones, and even entire skeletons of elephants, rhinoceroses, and antediluvian animals are found imbedded in the ice, which never is dissolved by the rays of the sun.

This plain is drained by numerous rivers, which, descending from the Altai and other lofty mountain-ranges, on the southern border of the plain, traverse it in a northerly direction. Some of them may be enumerated among the largest rivers of the globe. Such is the Obi or Oby, which unites with the Yrtish, and whose whole course rather exceeds 2,000 m. The Yenesei is still longer; for if we take for its source the Selenga, which falls into the Lake of Baikal, and issues from it under the name of Lower Angara, but changes it afterwards into that of Upper Tunguska, it runs not

less than 2,500 m. The Lena, which is joined by the large tributaries Vitim and Aldan, has a course of hardly less than 2,000 m. Farther E. is the Yana, which flows about 400 m., the Indighirka about 700 m., and the Kolyma 900 m.

2. *Elevated Table-land of Eastern Asia.*—The boundary of this extensive region lies near the parallel of 50° N. lat., between 82° and 122° E. long. On the W. the boundary is formed by a line extending first from 60° N. lat. and 82° E. long. to 40° N. lat. and 72° E. long., and hence nearly due S. to 34°. From this point it follows the range of the Himalaya mountains in its SE. direction to 62° E. long., where this chain, which constitutes the S. edge of the table-land, begins to turn nearly due E., and continues in that direction as far as 97° E. long., near the parallel of 26° N. lat. Hence it passes SE. to the table-land of Yu-nan, 25° S. lat. and 108° E. long., which forms the most southerly point of the great table-land of Eastern Asia. The eastern boundary runs along the range of the Yun-ling mountains, which rise in the most southerly bend of the river Kin-sha-kiang.

The whole of the immense area included within these lines is considerably elevated above the level of the sea. Only a few comparatively small tracts of country are supposed to have less than 3,000 ft. of absolute elevation, and many of its southern plains rise to more than 10,000 ft. According to our scanty information, we may suppose that the whole country rises continually higher in form of terraces as it approaches its southern boundary, the Himalaya range. But, examining the course of the rivers, we are obliged to suppose that this country gradually declines towards the east, as those rivers which flow from it to the west rise only on the very borders of the table-land, but many of those which traverse its internal plains descend to the Pacific Sea. Even those which are not connected with the sea, but terminate in lakes having no outlet, run mostly from W. to E.

This table-land does not extend in one uninterrupted plain, but besides its being almost everywhere surrounded by mountain-ranges, its interior is likewise traversed by several extensive chains. We shall first indicate the ranges which are met on its borders, then those in the interior, and make a few observations on the countries lying between the mountain chains.

Along the N. edge of the table-land runs a series of mountain-ranges, beginning in the extreme west with the Altai range, a chain of mountains which varies in width between 200 and 300 m., and extends along the table-land to Lake Kogul. It was formerly supposed to have a much greater extent, but it is now known that this lake with that of Baikal separate this range from the mountains of Dauria. The highest part of the whole range is near its W. extremity, where, on the banks of the river Tahumya, an upper branch of the Ob, it rises in some summits to more than 10,000 ft. above the level of the sea, and is always covered with snow. To the north-east of Lake Kogul is the great Alpine lake of Baikal, 355 m. in length, by 30 and 40 m. in width, and covering a surface of 14,800 sq. m., so that it is larger than half Scotland.

The W. boundary of the table-land, between 60° N. lat. and 82° E. long., and 40° N. lat. and 72° E. long., is not formed by a mountain chain, but by a country with a broken surface, which we shall notice hereafter. But between 40° and 34° N. lat. a continuous range rises to a great height. It is called, on our maps, Bolor Tagh, but, by the natives, Tartash, and by the Chinese geographers Tartash-i-ling.

The vast range of the Himalaya mountains runs along the SW. and S. edge of the table-land, from 84° N. lat. and 78° E. long., to 28° N. lat. and 97° E. long., being about 1,800 m. in length, and from 250 to 350 m. across. From the low plains of India, which border on the range on the SW., the mountain-mass rises abruptly to about 4,000 or 5,000 ft. Behind it lies a belt of an extremely broken surface, from 100 to 200 m. in breadth, overtopped by numerous high summits, which grow higher and higher as they approach the table-land. The base on which they rest also rises gradually, till it attains near the table-land the height of 8,000 or 9,000 ft. Then follows the highest portion of this stupendous range, the crest of the *Himālus* or *Imālus* of the ancients, some of whose summits exceed by 10,000 and 11,000 ft. the altitude of Mont Blanc, and are the highest in any country hitherto discovered. The Dhaulagiri (28° 30' N. lat., and 88° 30' E. long.) attains 26,862 ft. above the sea, and the Chamalari (28° N. lat., and 89° 30' E. long.) is probably but little lower. The Tawahir (30° 22' N. lat., and 79° 57' E. long.) rises to 25,749 ft. There are probably above 200 summits, which rise more than 18,000 ft. above the sea, and are covered with eternal snow. In fact, the name Himalaya or Himalah is merely a Sanscrit term for snowy; a circumstance of which Pliny was well aware when he says *Imālus incolarum lingua nivosum significante*. (Hist. Nat., lib. vi. § 17.) By far the greater number of these high summits lie W. of the Chamalari; for E. of that high pinnacle, the mountains which attain the snow seem huge, but few. On the SW. are the plains of India, which are nowhere more than 1,000 ft. above the sea; and on the north of the range are the plains of Tibet, which have at least 10,000 ft. of absolute elevation. The highest crest of the range towards this table-land is between 16,000 and 18,000 ft. high, the Neetec pass, one of the lowest, rising to 16,569 ft. above the sea.

The country which lies between the E. extremity of the Himalaya range (97° E. long.) and the table-land of Yu-nan (between 100° and 104° E. long.) contains the sources of the Irawaddi, and rises to a considerable elevation, being overtopped by high summits. The table-land of Yu-nan itself is of considerable height, and the winters are very cold, though it be placed near the tropic. Some mountain summits which rise from it attain the snow-line; they are mostly situated along the most southerly bend of the river Kin-sha-kiang, and may be considered as the most southerly extremity of the Yun-ling.

The Yun-ling, which rises on the E. edge of the great table-land, and runs in a NNE. direction in the great bend of the river Kin-sha-kiang, is also of considerable height, so that it is frequently called by the Chinese the Sine-ling (Snow-range). The snow-capped summits are numerous, between 80° and 86° N. lat., and more especially between 82° and 84°. The eastern boundary of this table land is formed by the mountain-ranges of the In-shan and Khing-khan, which extend east and north from the most northerly bend of the Whangho river. The length of the In-shan does not much exceed 360 miles. But the Khing-khan, whose northern extremity advances to the most northerly bend of the river Amoor, has a length of nearly 800 miles.

The most northerly of the mountain-ranges traversing the interior of the great table-land of Eastern Asia is the Thian-shan. It begins at the northern extremity of the Tartash-i-ling, or Bolor Tagh (40° N. lat.), with which it forms nearly a right angle. But, properly speaking, it

projects under the name of Ak-Tagh into the plains of Bokhara, lying farther W. The Thian-Shan runs from W. to E., between 70° and 96°, and then it terminates abruptly in the plain. Its western portion, which is called Muz-Tagh, though rising to a great elevation, is passed by the caravans between Kulджа and Khasghar. Here its breadth does not exceed 80 or 40 m. But near 79° E. long., where it is traversed by the road between Kulджа and Aksu, the highest part of the mountain-pass is covered with snow, and leads over a glacier. Hence this pass is called *Museur dabahn*, or the glacier-pass. Farther E. is the high volcanic peak, called Pe-shan. The centre of the whole range is occupied by an extensive mass of very high rocks, which rise far above the snow-line, and this mass is known as one of the highest mountains in Northern Asia by the name of Bogdo Obla. To the E. of this high mountain-mass occurs another volcano, named the volcano of Ho-theou (Fire-town). Snow-capped mountains appear likewise on the E. of the Bogdo Obla, but we are very little acquainted with this part of the range.

It was formerly supposed that a high mountain-range, running SW. and NE., connected the western extremity of the Thian-Shan with the western extremity of the Altai range, but it is certain that no such range exists. The country lying between these ranges is indeed traversed by several lower ridges, of which some are of considerable extent, but they are not connected with each other, wide plains extending between them. These plains do not much differ from the steppes of Western Siberia, being only covered with coarse grass; but along the rivers are considerable tracts of land, fit for agriculture, and yielding rich crops of rice and millet. Besides, there are similar tracts along the foot of the ridges. This country is, besides, remarkable for the great number of large lakes which are met with over its whole surface. The most remarkable are the Balkash, which is said to extend from 120 to 140 m. from N. to S., the Issikul or Temurti, which is half as long, the Ala-kul, Zaisan, Kijilbaah Noör, Ike-Aral Noör, Ubra Noör, and a great number of smaller ones. Except the Zaisan they have no outlets, and the water of none of them arrives at the sea. Another remarkable circumstance is the occurrence of volcanoes, at a distance of about 1,000 m. from the sea. For, besides the volcanoes noticed in the Thian-Shan range, there occur others to the N. of the chain, and one is found on an island in the Lake of Ala-kul.

Not far from the S. extremity of the Tartash-iling (between 35° and 36° N. lat.), another mountain-range, running E. and W., is connected with it. This chain is called by the Chinese geographers, Kuen-luen, or Kul-kun. We know very little of it, except that it stretches over the whole breadth of the great table-land, and nearly in the middle of its extent (about 92° E. long.) divides into two ranges, of which that which declines somewhat to the N. is called Nan-Shan, and is probably connected with the In-Shan by the Ala-Shan, a range of mountains extending along the banks of the Hoang-ho, where it flows N. The other branch of the Kuen-luen, which declines somewhat to the S., is called the Bayan Kara mountains, and frequently also the Kuen-luen. These ranges are in many parts covered with snow all the year round; whence they frequently are called Siue-mountains (snow-mountains) by the Chinese.

The immense tract of country which lies to the N. of this range (on the W. between it and the Thian-Shan, and on the E. between it and the Altai Mountains), is known by the name of Gobi or

Great Steppe. But the whole of this tract is not a desert. The W. portion of it, between 72° and 96° E. long., or between the Thian-Shan and Kuen-luen, is only from 800 to 400 m. across, and nearly 1,200 m. in length. Here we find a tract of country from 50 to 80 m. across, along the foot of the Thian-Shan range, fertile in many districts, producing different kinds of grain, cotton, wine, and fruit, or covered with nourishing grass. Through this tract runs the great commercial road, which connects W. Asia with the more eastern countries, and here are situated the commercial towns of Khasghar, Aksu, Kutshé, Karaahar, Turfan, and Khamil, or Hami. The W. portion (between 72° and 77° E. long.) is also not a desert. Through the tracts separating the rivers are steppes, i.e. plains without trees, and producing only a coarse grass; the lands bordering the banks of the watercourses are fertile in grain and cotton. Here is the town of Yarkand, and, towards the Kuen-luen, Khotun, through which two places a road runs, which connects N. Asia with India. It is supposed that the term *cotton* is derived from the name of the last-mentioned town. The remainder of this region is a desert, and mostly of the worst kind, where the sandy surface, according to a Chinese author, moves like the waves of the sea. This desert is sometimes distinguished by the name of Sha-shin, or the Gobi of Lop Noör. The Lop is one of the extensive lakes without an outlet, which frequently are met with in this desert. It receives from the W. the Tarim, into which flow the Yarkand-Daria, Khasghar Daria, and other rivers from the Kuen-luen, Bolor, and Thian-Shan ranges. This part of the Great Table-land is supposed to be between 4,000 and 5,000 ft. above the sea-level.

It seems that under the meridian of Khamil (96° E. long.) the desert is narrowed to about 150 m. across by the fertile districts of Tangut, which skirt the declivity of the mountains of Nan-Shan, and protrude far northward into the desert. The desert, dividing it from Khamil, and called Gobi of Tangut, is also less level, more stony, and better adapted for pasture, than farther E. or W. Hence the Chinese government has extended its NW. prov. of Kansu through this desert to the N. side of the Thian-Shan mountains.

The Gobi-Shamo Steppe extends from the eastern extremity of the Thian-Shan (96° E. long.) to the Khing-Khan (120° E. long.), nearly 1,200 m. in length, and its width between the Altai range on the N., and the Nan-Shan, Ala-Shan, and In-Shan, on the S., varies between 500 and 700 m. Through the middle of this tract extends, in the whole of its length, what is properly called the Shamo (Sand Sea). It is from 150 to 250 m. across; and in it sand almost exclusively covers the surface, which commonly is level, but in some places rises into hills, on which masses of loose stone are met with. Small and shallow lakes are frequent, but their water is either salt or bitter. The vegetation is very scanty, and affords but indifferent pasture. In a few places a small number of stunted trees are met with. This part of the Gobi is about 3,000 ft. above the sea-level, but it sinks in some places even to 2,600 ft. In those parts of the Gobi which lie to the N. and S. of the Shamo, the surface is between 3,000 and 4,000 ft. above the sea. Here it is not, in general, covered with sand, but with gravel and pebbles, and is in many places rocky. The vegetation is much more vigorous, and the pastures consequently richer. It is even thought that, in many districts, agriculture would succeed, if the nomadic nations inhabiting these countries would attend to it; and in some districts which border

in China, millet is grown abundantly, and even wheat and barley, though not to a great extent. Trees are also met with, as well on the N. as on the S. of the Shamo, especially fir, birch, and poplars, but not in large forests. The countries are likewise better provided with water than the Shamo, which could not be traversed, if wells were not dug at certain places where the roads pass. The northern and southern districts have also a less level surface, ridges of stony and rocky hills traversing it in many places; they run commonly from W. to E., and are called the Black Clouds. The few and sluggish rivers which are met with, are lost in lakes without outlets. Only in the north-eastern angle are the Kerloon and Khalka-Pira rivers, which, entering Lake Tshun, form the Argoun, the principal branch of the Amoor. The temperature of the air is extremely low over the whole Gobi, the waters being covered with ice six months of the year.

The country which is included between the two branches of the Kuen-luen range, the Nan-Shan, and Bayan Kara mountains, is called Thuing-Hai, or Khoo-khoo-noor. The latter name is derived from an extensive lake in its NE. district. It is very little known, and seems to exhibit a succession of narrow valleys and very high mountains, whose numerous summits pass far beyond the snow-line. These mountains form very extensive and high masses in the bend of the Whang-ho, which river has its sources in the W. districts of this region.

The whole country S. of the Kuen-luen mountains, as far S. as the Himalaya range, is comprehended under the name of Tibet. It is, doubtless, the highest part of the great table-land of Eastern Asia, and there are good reasons for assigning it an average absolute elevation of 10,000 ft. above the sea-level, though, towards the east, the valleys of some rivers may be considerably less. A mountain-range runs through it from W. to E. It is connected with the Himalaya range by a level table-land of 14,000 ft. elevation, which surrounds the sacred lakes of Manassa-Bowra and Ravan-Hrad, and on which, or near which, are the sources of three great rivers, the Indus, Ganges, and Yaru-Tsaupo, or Brahmapoutra. The mountain-chain itself is called Gang-dis-ri on the W., but farther E. it bears the name of Zang. Its E. extremity is separated from the Yun-ling by the valley of the Kin-sha-kiang, which here flows from N. to S. Little is known of this range, which probably, being placed on so elevated a base, passes with its summits the line of congelation.

Of the country which lies to the N. of this range very little is known, if we except the most westerly corner, where the Indus river, issuing from a table-land between mountain-ridges, enters the spacious, level, and fertile valley of Leh, or Ladak, and runs in it about 800 m., till it breaks through the mountain-ranges which oppose its course, and enters the plain of India. On the W. of this fine, but elevated valley, is the Himalaya range; and on the E. another high chain, the Kara-korum mountains, which, extending NW. and SE., connect the Kuen-luen chain with the Gang-dis-ri mountains.

The country east of the Karakorum mountains, and extending between the Kuen-luen and the Gang-dis-ri ranges, is called Katshe, or Kor Katshe. There occur in it some ranges, but the greatest part extends in wide plains, similar to the steppes, but abundantly provided with good pasture. Near the Gang-dis-ri range is an extensive lake, called Tengri, and N. of it are the sources of the Kin-sha-kiang. This river enters China on the borders of the province of Szechuen, and after

traversing the NW. part of this province under the name of Kin-sha-kiang, or River of the Golden Sand, it passes into the province of Yu-nan. It leaves this province again towards the NE., and re-entering Szechuen, traverses its SE. portion. At the city of Leuchow, it receives the river Min, or Wei, and after this junction, it loses its name of Kin-sha-kiang, and takes that of Ta-kiang, or Great River. At Wuchang, in the province of Hupih, it is joined by the Hu-kiang, or Hu river, and the main river is from this point known by its name of Yang-tee-kiang.

The country between the Gang-dis-ri range and the Himalaya mountains is Tibet Proper. Its surface exhibits only low rocky hills, without any signs of vegetation, rising on extensive arid plains, covered at certain seasons with rich grass, and affording pasture to numerous herds of cattle. The valleys in which the rivers run are considerably depressed below the surface of the plains, and in these valleys agriculture is carried on with great care. All kinds of European grains are cultivated, and in some places rice. Most of the fruit-trees of Europe also succeed. But, as the portion of the country which is fit for agriculture is only a small part of the whole, the population, though far from numerous, is partly supplied with corn from the adjacent countries. The climate is very severe, and the rivers covered with ice for some months. The E. part of Tibet is very little known; it seems to be traversed by high ranges, and not to exhibit the large plains which occur farther W. In Tibet is the lake Palte, which has a large island in its centre, so that the lake has the form of a ring. The Yaru-Tsaupo, or Brahmapoutra river, runs through this country from W. to E., and after a course of more than 1,000 m., breaks through the chain of the Himalaya range, about 95° E. long., and joins the Brahmapoutra under the name of Di-hong.

The table-land of Yu-nan, which forms the most southerly portion of the great table-land of Eastern Asia, has an extremely diversified surface, being a succession of mountains which in some places rise above the snow-line, and of valleys, which, however, frequently widen to small plains. The climate indicates a considerable elevation above the sea-level, but it is not so high as to preclude agriculture, corn being raised in the valleys and plains, and in some districts rice. Towards the NW., however, it rises much higher, as there the rearing of cattle forms the principal occupation of the inhabitants, who have herds of chowry-tailed cattle (*Bos grunniens*), which are only found in very cold countries.

3. *Countries lying to the East of the Table-land of Eastern Asia.*—East of the desert of Gobi extends Shing-king, or Manchooria (the country of the Manchoes), bordered to the coasts of the Pacific, except in the extreme north, where the eastern boundary of Manchooria is the river Ussuri, an affluent of the Amoor. The country east of the Ussuri, between this river and the Pacific, has recently been annexed to the Russian empire. Manchooria is divided from the desert by the Khing-khan mountains, which on the side of the desert are destitute of wood, but towards Manchooria are covered with fine forest-trees, among which oak is frequent. The boundary between Manchooria and the peninsula of Corea approaches the coast and runs so close along it as to leave only at some places a very narrow strip of low country until it terminates at the mouth of the river Amoor, opposite the Yablonoi Khrebet. Along this coast the mountain-chain rises with great steepness to from 4,000 to 5,000 ft. above the sea. The countries enclosed by these mountain-ranges

exhibit different characters. The SW. part of it, N. of the river Sira Muren, or Leao-ho, is a desert, and may be considered as part of the Gobi, which here projects beyond its natural boundary, the Khing-khan range. It has a scanty vegetation and is only inhabited by nomadic nations. E. of it, and as far N. as the Amoor river, the country is traversed by ridges of mountains and hills, between which, however, spacious valleys extend, whose fertile soil is in some places well cultivated, and yields rich crops. The mountains and hills are partly covered with trees, and partly afford rich pasture-walks for numerous herds of cattle and sheep. The climate of this portion of Manchooria is very temperate. N. of the river Amoor the whole country is covered with mountain-masses, intersected by narrow valleys. Here agriculture ceases, and cattle form the principal riches of the inhabitants, who also apply themselves industriously to the chase of animals affording furs, of which there is a great abundance. The principal river is the Amoor, whose upper branch, the Argoun, runs through the NE. districts of the Gobi, and after entering the mountain joins the Shilka, when the river is called Amoor, or Sakhalien. The whole course of this river does not fall short of 2,000 miles.

The peninsula of Corea is separated from Manchooria by the Chang-re-shan, and from this range another branches off to the S., which runs close to the E. shores, towards which it descends with great rapidity, and in these districts the level or cultivable tracts are of small extent. The numerous offsets to the W., which are less steep and elevated, contain between them large and well cultivated valleys. But the whole country seems to have a considerable elevation above the sea-level, as its climate is very cold, its N. rivers being covered with ice for four months; yet rice, cotton, and silk, are produced in abundance.

China Proper occupies the remainder of the countries lying between the great table-land of Eastern Asia and the Pacific. Several mountain-ranges issuing from those that surround it, traverse its interior. Where the In-Shan and the Khing-Khan meet, stands a high summit, the Petsa, more than 16,000 ft. above the sea-level, and from it a chain runs first SW. and then S. 400 m., and terminates at the last great bend of the Hoang-ho. It is called Kho-thsing-Shan, and though high, does not rise to the snow-line. Near 84° N. lat., two ranges branch off from the Yunling, the Peling (northern range) and the Tapa-ling, and they continue as high mountain-chains as far E. as 111° or 112° E. long., when they sink down to hills. These ranges contain some snow-capped summits towards the W., and are steep and rugged. From the E. side of the table-land of Yu-nan branches off another range, called Nanling (southern range), which constitutes the most extensive mountain-system in China. It runs E. as far as 116° E. long., passing about 150 miles to the N. of Canton; it then inclines to the NE., in which direction it continues with a slight bend to the W. to its termination on the sea, near the harbour of Ningpo, opposite the islands of Chusan. Several summits of this range rise above the snow-line, W. of 110° E. long., and here it extends also to a considerable width. East of 110° E. long., no snow-capped summits occur, though some rise to a great elevation, but everywhere the descent of the range is steep and rugged.

The country lying between the Kho-thsing-Shan and the Tapa-ling is full of high and extensive mountain masses, and intersected by valleys, which are very narrow, except two which are drained by the Wei-ho, a tributary of the Hoang-

ho, and by the Kan-kiang, a branch of Yang-tse-kiang. These are wide, and afford large tracts for agricultural purposes. The large tract which extends between the Tapa-ling and the Nan-ling, is traversed by many ridges of mountains and hills, which mostly branch off from the last-mentioned range, but these elevations rise only to a moderate height, and the gentle declivities are mostly cultivated. Besides, they are separated from one another by very wide valleys, which frequently are intersected by very extensive plains, that everywhere recompense the industry of the careful cultivator. They are, in fact, hardly inferior in fertility to the great Chinese Plain.

This great plain occupies the NE. part of China, extending in length 700 m. from the Great Wall, N. of Pe-king, to the confluence of the rivers Yang-tse-kiang and Kan-kiang, near 30° N. lat. Its breadth is various. North of 35° N., where it partly extends to the shores of the Hoang-hai, and partly borders on the W. declivity of the Chang-tung mountains, a low range, occupying the peninsula of that name, the width of the plain varies between 150 and 250 m. Between 35° and 34° N. lat. the plain enlarges, and in the parallel of the Hoang-ho it extends more than 300 m. E. and W. Farther S. it grows still wider, and reaches nearly 500 m. inland, in the parallel of the mouth of the river Yang-tse-kiang. This large plain, though the N. districts have mostly a sandy soil, and the E., between the embouchures of the Hoang-ho and Yang-tse-kiang, are partly covered with swamps, is, perhaps, the best cultivated and most populous portion of the globe, producing abundance of rice, cotton, wheat, and tobacco. It contains at least 210,000 sq. m., so that it is seven times as large as the most fertile plain of Europe, that in the north of the kingdom of Italy, known as Lombardy. The internal communication of this fertile tract is rendered easy by the Great or Imperial Canal, which traverses it from S. to N., and whose length exceeds 500 m. in a straight line, but probably its whole length is not less than 700 m. It is, also, traversed by the lower courses of the two great rivers of China, the Hoang-ho and the Yang-tse-kiang, which flow through it from W. to E. The Hoang-ho runs upwards of 2,000, and the Yang-tse-kiang more than 2,900 m., if their bends be taken into account.

4. *Countries lying to the South of the Great Table-land of Eastern Asia.*—This region comprises the two peninsulas, which are known in Europe by the name of India, within and without the Ganges.

The peninsula without the Ganges is traversed by four mountain-ranges, of which the three farthest east are connected with, or branch off from, the table-land of Yu-nan, the most southern extremity of the Great Table-land. The most easterly, which may be called the Anam range, begins at 22° N. lat., and runs SE. till it approaches the Chinese Sea, near 17° N. lat.; hence, farther south, it proceeds parallel to the shores of that sea, and terminates at Cape St. James (10° 15'). This range occupies about 100 m. in width; its elevation has not been ascertained, but it seems to be considerable, though far from rising to the snow-line, except, perhaps, where it is connected with the table-land of Yu-nan. Two other mountain-chains branch off from the SW. side of the same table-land, between 95° and 97° E. long., and run nearly due S., including the narrow valley of the Thaluén river. The most westerly, which may be called the Birman range, terminates as a chain of considerable elevation at the mouth of the Thaluén river; the other, which runs to the E. of that river, and may be called the Shan or Siam range, continues farther S., but gradually declining in

height till it disappears entirely N. of the most narrow part of the peninsula of Malacca, the isthmus of Krai ($11^{\circ} 30' \text{ N. lat.}$): for the low mountains, which occupy the interior of the S. part of that peninsula, are not connected with it.

Between the Anam range and the Gulf of Tonkin lies a large plain, that of Tonkin, about 100 m. in length and width: it is low, level, and extremely fertile, especially as far as it can be irrigated. It is surrounded on the N. and W. by very fertile valleys, and traversed by the river Song-ca, which rises on the table-land of Yu-nan, and runs in an ESE. direction probably more than 700 m. The plain of Tonkin terminates between 19° and $20^{\circ} \text{ N. lat.}$: farther S. the offsets from the Anam range approach close to the sea, and leave only between them larger or smaller valleys, which commonly are very fertile. South of Cape Avarella steep rocks occupy nearly the whole of the country.

The N. portion of the country, occupying the extensive tracts which separate the Anam range from the Shan range, exhibits several high mountain ridges, which include valleys and surround elevated plains. South of $16^{\circ} \text{ N. lat.}$, however, low plains constitute the general character of the country; for though several ridges occur, they do not seem to rise at any place above the elevation of high hills. These low plains have a greater abundance of water than any other country of Asia. A considerable portion of their surface is covered with permanent lakes: others are formed during the rainy season, by the inundation of the numerous and large rivers; and at that season a great portion of the land is changed into immense swamps. Though the soil is very fertile, and yields very rich crops of rice and every kind of vegetables cultivated for food between the tropics, civilisation is less advanced than either in China or Hindostan; because its inhabitants being unable to turn this abundance to their advantage, it acts as an incentive to idleness. Three large rivers drain this country. The most easterly is the Sai-gun, which runs along the Anam range, and falls into the sea near Cape St. James: its upper course is entirely unknown, but from its size towards its mouth it is supposed to run from 500 to 600 m. The Mackhaun, or river of Cambodia, is called by the Chinese Lan-tan-kiang, and rises in the interior of the Great Table-land, so that its whole course probably exceeds 2,000 m.: it falls into the sea W. of the mouth of the Sai-gun river. The third river is the Menam, or river of Siam, which runs about 700 m., and falls into the Gulf of Siam.

The valley, in which the Thaluen runs, between the mountain-ranges of Siam and Birmah is narrow; its soil is stony, and too much elevated to be irrigated by the water of the river, which rushes with great impetuosity down its confined bed, descending from the Great Table-land, where it is called Loo-kiang, or Noo-kiang. Its whole course probably exceeds 1,500 m.

The peninsula of Malacca, which constitutes the most southerly part of the continent of Asia, and terminates with the capes of Buros and Romania, between which the island and town of Singapore are situated, is connected with the mainland by the isthmus of Krai (between 9° and $11^{\circ} \text{ S. lat.}$), about 150 m. long, and from 70 to 80 m. wide. It is low, and its soil is formed by alluvium. The peninsula itself contains a mountain-ridge in the interior, which rises to 3,000 or 4,000 ft., and is mostly covered with thick wood, but along the shores extends a level country, which in some districts is very fertile, but mostly not very productive.

The most westerly of the four mountain-chains which traverse the peninsula beyond the Ganges from N. to S. nearly in its whole length, is the Aracan range, dividing Aracan from the Birman empire. It is not connected, like the others, with the table-land of Yu-nan, but with the Himalaya range. The Himalaya mountains are considered to terminate at the sources of the Brahmapoutra, ($97^{\circ} 30' \text{ E. long.}$, and $28^{\circ} \text{ N. lat.}$). The mountains which surround the upper course of that river are called the Langtan mountains, and many of their summits rise above the snow-line; the highest of those which have been measured, the Dupha Boom, attaining 13,713 ft. above the sea-level: the passes which lead over it do not sink below 11,000 ft. From these mountains, which rather constitute a large mountain-knot than a range, a chain issues, running W. parallel to the Himalaya range. That portion of the chain which is immediately connected with the Langtan mountains is called Patkoi mountains: it seems to be much lower, and more accessible. Farther W. they are called the Naga mountains, which are still lower, and extend to about $98^{\circ} 30' \text{ E. long.}$, where they are succeeded by the Garro Hills, which rarely rise to more than 6,000 ft., and terminate opposite the mountain ridges which surround the enormous pinnacle of the Chamalari in the Himalaya range.

Between this range and the Himalaya mountains extends the valley of Asam, or of the Brahmapoutra, one of the largest in Asia: its length exceeds 400 m., and in width it varies between 30 and 50 m. Its soil is very fertile, and the climate such as to bring to perfection nearly all productions cultivated between the tropics: but here also the too great abundance of water retards the progress of agriculture and the increase of the population. The Brahmapoutra runs more than 500 m. through the centre of this valley, and is here joined by the Di-hong, which, under the name of Sampu, or Yaroo-Zangbo-tai, flows through the plains of Tibet, and has run a course of more than 1,000 m. before it reaches the Brahmapoutra. Issuing from the valley of Asam, the Brahmapoutra runs 360 m. farther through the plain of Bengal.

The country which extends along the mountain chains constituting the S. boundary of the valley of Asam, and advances as far S. as $24^{\circ} \text{ N. lat.}$, seems to be considerably elevated above the sea, the plain on which the town of Moonipore is built having an elevation of nearly 2,500 ft. But the plains are commonly not of great extent, and the valleys are narrow, though the mountains which cover the greater part of the surface do not rise to a great elevation. As far as is known (for the eastern portion of this region has not been visited by European travellers) these ranges run S. and N., and form right angles, or nearly so, with the range from which they issue. One of these ranges, extending along the meridian of $91^{\circ} \text{ E. long.}$, is called the Khiebunda mountains, between Moonipore and Kathar, but farther S., the Aracan mountains. This chain, whose length rather exceeds 700 m., attains, towards the S., only a mean elevation of about 3,000 ft. above the level of the sea, though some of its summits rise to 5,000 ft. and upwards. Its mean width may be 50 m.: it terminates at Cape Negrais.

Between the Aracan mountains and the Birmah range lies the greatest part of the Birman empire. A small portion of its surface consists of rich cultivable lands; these lie in the wide valley of the Irawaddi, and in two large plains; one situated between 22° and $23^{\circ} \text{ N. lat.}$, along the N. side of the great bend of that river, and the other between 16° and $18^{\circ} \text{ N. lat.}$: the latter comprehends the

large delta of the Irawaddi, and the adjacent low country as far E. as the Birmah mountains, and may have a surface of nearly 100,000 sq. m. But its agriculture suffers from excess of water. The country E. of the Irawaddi, and S. of its great bend, is a high country, from 1,500 to 2,000 ft. above the level of the sea, whose hilly surface suffers from want of water, the soil being sandy and dry. The Irawaddi, which drains the Birman empire, rises in that unknown region E. of the Langtan mountain-knot, and runs upwards of 1,200 m., if its bends be taken into account.

Aracan, or the country lying east of the Aracan mountains, is hilly, and even mountainous in its northern districts, the table-mountain (near 21° N. lat.) rising to 8,340 ft. above the sea; but its middle parts are occupied by the rather wide valley of the Huritung or Aracan river, and this is continued farther S. to 19° N. lat., being separated from the sea to the S. of the mouth of the river by a ridge of broken hills, which rise to between 500 and 700 ft. The rains during the south-west monsoon being extremely heavy and of long continuance, agriculture is here also retarded by the abundance of water.

Hindustan, or the peninsula within or on this side the Ganges, is not connected either with the table-land of Eastern or that of Western Asia, being separated from each by a wide plain, extending first from the mouth of the Ganges along the southern declivity of the Himalaya range to the shores of the river Indus, in a WNW. direction, and thence along the mountains forming the boundary of the table-land of Iran, in a SSW. direction to the mouth of the Indus. Thus this plain has the form of a right angle; and is, on account of its different character in the eastern and western districts, with propriety divided into the plain of the Ganges and that of the Indus.

The plain of the Ganges may be compared with the great plain of China, in respect of fertility and extent, though not of population. Its length is upwards of 1,000 m., and its width varies between 120 and 350 m.: it covers an area of more than 200,000 sq. m. From the mouth of the Ganges it rises imperceptibly towards the NW.; but, even at a distance of 200 m. from the sea, its surface is not 1,000 ft. above it. The country between the W. mouth of the Ganges, the Hooghly, and that of the Brahmapoutra, to a distance of nearly 100 m. from the sea, is extremely low, and frequently inundated by high tides. It is called the Sunderbunds, and is nearly uninhabited on account of its unhealthiness, being covered with large forest-trees, and frequented by tigers and other beasts of prey. The country which lies N. of the Sunderbunds, to an extent of 200 m. and upwards, is subject to the annual inundations of the Ganges; by whose deposit it is fertilised, so as to give the most abundant crops of rice. It is cultivated with the greatest care, and nourishes a very numerous population. N. of 25° N. lat. the annual inundations of the river cease; and where no artificial means are employed to effect an irrigation for the culture of rice, the country produces wheat and other grains. But the natural fertility of the soil decreases as we advance higher up the river. It becomes more sandy, and N. of Delhi the tracts along the rivers can only be cultivated. At 30° N. lat. it is a complete desert. Between this plain and the lowest range of the Himalaya mountains extends the Taryana, a narrow strip of land from 12 to 20 m. wide, covered with immense forests, and frequented by a great number of elephants, tigers and other animals. It is uninhabited on account of its unhealthiness, the surface in the rainy season being converted into an immense

swamp; but between November and March it may be visited without danger.

The river which drains this plain, the Ganges, rises in the highest and most northerly range of the Himalaya mountains, bordering on the table-land of the sacred lakes of Manassa, Rowarra, and of Hrawan Hrad. Its several sources unite before it issues from the mountains at Hurdwar. It soon begins to change its W. into a S. and south-easterly course. In the latter direction it traverses the upper part of the plain. But from its junction with the Jumna it runs E. to the neighbourhood of Rajamahar, where it again turns to the SE., and soon after begins to form its extensive delta, dividing in a great number of branches, of which the most easterly and principal falls into the Bay of Bengal, a few miles W. of the mouth of the Brahmapoutra; but the western mouth, called the Hooghly, is in a straight line 180 m. distant from it. All rivers descending from the Himalaya mountains, between 78° and 90° E. long., increase its waters, and most of them inundating the lands contiguous to their banks during the rainy season, contribute to increase the fertility of the plain. The course of the Ganges exceeds 1,300 m.

The plain of the Indus is somewhat less in extent, and greatly inferior in fertility. It extends in length about 600 m., and in width 300 at an average. Its surface may cover an area of 180,000 sq. m. Its N. part is called the Penj-ab (country of five rivers), from being watered by five large rivers, which afterwards join the Indus. This tract is commonly very fertile along the watercourses, and there are even, between the rivers, districts whose soil recompenses the labour of the husbandman; but in general they have a light soil, which frequently passes into sterile sand or clay. This description also applies for the most part to the tract of land which lies on the right of the river, between it and the ranges which separate it from the table-land of Iran. But on the left of the Indus extends an immense sandy desert, which in the N. is called Marooz'hali, or the Great Desert, and to the S. Thur, or the Little Desert. It extends over the delta of the Indus, and occupies nearly half the whole plain. At its southern extremity is the Runn, an extensive salt morass, connected with the Gulf of Cutch. In the desert also occur smaller lakes and marshes, in which salt is produced. It is only inhabited in a few places, where rocks protrude through the sand, having their surface covered with scanty grass. The Indus, which drains this plain, has its sources near those of the Ganges; descending through the spacious valley of Leh or Ladak; it breaks through the mountains at the north-western extremity of the Himalaya range. Its whole course amounts to upwards of 1,500 m.

Where the two plains of the Ganges and Indus meet, in the parallel of Delhi, between 76° and 77° E. long., begin the mountainous countries of Hindostan, which extend to its most southern extremity, Cape Comorin (near 8° S. lat.). This immense tract may be divided into two triangles, connected at their bases at the Vindhya mountains, which extend between 22° and 23° from the Bay of Cambay, to the plain of the Ganges, NW. of Calcutta. This chain is of moderate elevation, its highest summits probably not exceeding 3,000 ft. above the sea, and the most frequented of its mountain-passes, that of Jaum, only rising to 2,328 ft. At its western extremity, about 80 m. from the Bay of Cambay, it is connected with another chain, the Aravalli range, which first runs N., in broken masses, up to the vicinity of 24° N. lat., but farther N. forms a continuous range, running NNE. It descends westward, with a steep de-

divity, to the desert of Marooct'hali, and prevents the sand of that district from encroaching on the fertile country lying farther E. Its average elevation probably does not exceed 3,000 ft., though some summits rise higher, and the Abou or Aboda Peak (between 24° and 25°), even to more than 5,000 ft. These two chains, the Vindhya mountains and the Aravulli range, constitute two sides of the northern triangle, and from them the country gradually lowers, until it meets the plain of the Ganges, not far from the banks of the Jumna. Contiguous to the mountains are two considerable plains; the table-land of Malwa, well known by its extensive plantations of opium, skirts the northern declivity of the Vindhya mountains for about 300 m., and has an average breadth of 50 m. Near the mountains its elevation is between 1,800 and 1,900 ft. above the sea-level; but towards the N. it imperceptibly lowers to less than 1,300 ft. The table-land of Mawar extends along the Aravulli range; it is between 150 and 180 m. long, from S. to N., and from 70 to 100 m. wide. Its elevation near the mountains is about 2,000 ft. above the sea, but on its eastern border it sinks to 1,400 ft. In fertility it is much inferior to the plain of Malwa; it produces different kinds of grain, but little rice. The tracts of country which separate these plains and extend to the plain of the Ganges, have a very broken surface, which on the E. in Harraootee, rises in steep and rugged hills, but farther W., in Bundelcund, presents more gentle acclivities, and wider, as well as more fertile, valleys. The rivers which drain these countries fall into the Jumna, a tributary of the Ganges.

The peninsula of Gujerat, lying opposite the mouth of the rivers Nerbudda and Tapti, is united to the continent of Hindostan by an isthmus more than 50 m. long, between the southern part of the salt morass called the Runn and the Bay of Cambray. This isthmus is so low that, in the rainy season, the waters of both gulfs unite and convert the peninsula into an island. The districts contiguous to this isthmus, as well as those bordering on the gulfs of Cambay and Cutch, have a undulating surface, and contain extensive tracts of fertile and well cultivated land. The lands along the western coast are rather level, but their surface is stony, covered with little earth, and not fertile. The interior of the peninsula, and all the districts along the southern coast, have a very broken surface, and are mostly covered with bare rocks, but contain a number of fertile valleys. The mountains in the centre of the peninsula attain a moderate elevation. The whole is well supplied with running water, except the north-western extremity, but is destitute of wood, except on the hills along the southern coast.

Contiguous to the eastern extremity of the Vindhya mountains, but S. of them (between 81° and 83° E. long., and 22° and 23° N. lat.), the country rises to a considerable elevation, probably to more than 5,000 ft. It is overtopped by numerous summits which rise 2,000 ft. higher. This rugged country, which seems to constitute a mountain-knot, from which ridges and rivers run out in all directions, is called Omerkuntuk. The most considerable of these rivers is the Nerbudda, which runs westward in a deep valley, overhanging on the N. by the steep acclivities of the Vindhya mountains, and bounded on the S. by another range, the S. Sauppoora mountains. This valley, which is wide, except at its eastern extremity, and of considerable fertility, is considered as the boundary line between Hindostan Proper, lying N., and the Deccan, extending S. to Cape Comorin. The length of the valley, and of the river, is about 600 m. Similar is the valley in which the Tapti

runs along the southern declivity of the Sauppoora mountains, parallel to the Nerbudda, but its course does not much exceed 300 m.

To the S. and SE. of Omerkuntuk, between the lower part of the plain of the Ganges, and as far S. as the course of the river Godavery, extends a tract of country whose elevation above the sea has not been determined; but the comparatively low temperature of the air, and the healthiness of the climate, seem to indicate that it must be between 3,000 and 4,000 ft. Its surface is broken; the hills rise to 2,000 ft. above it, but they are separated from each other by wide valleys, and frequently by plains of moderate extent and indifferent fertility, except along the foot of the ridges, where the soil commonly is rich. The eastern border of this rugged table-land is formed by a chain of mountains, which does not seem to rise considerably above it, but they are so steep as to be almost impassable for horse or wheeled carriages. Their distance from the sea varies between 60 and 80 m.

On the mountain-knot of Omerkuntuk rises the river Mahanuddy, which traverses this broken country in an ESE. direction nearly in the middle. It falls into the Bay of Bengal, after a course of more than 500 m., and forms at its mouth an extensive delta.

South of the mouth of the river Tapti, and nearly in its parallel, rises suddenly from the plain a continuous mountain-range called the Ghauts, extending southward as far as the river Ponany (11° S. lat.), through 10° of lat. In some parts it is 80 or even 40 m. distant from the sea; in others it constitutes its very shores. It rises abruptly with a steep ascent from the low coast, and attains a mean elevation of from 4,000 to 5,000 ft.; but some of its summits rise much higher. The highest portion are the Neigherry hills (11° S. lat.), which are more than 3,000 ft. above the sea; the Liliandumale (12° N. lat.) is above 5,500 ft.; and the Subramuni (12° 30') above 5,400 ft. In many points, the range sinks down to less than 2,000 ft., and over these depressions lead the *ghauts* or mountain-passes; whose name has been transferred to the range itself.

The narrow tract of country which intervenes between this range and the sea-coast is called Malabar. It is mostly occupied by the short offshoots of the Ghauts, which preserve their character of steepness, but include small valleys which display a vigorous vegetation. The narrow tract of level land along the sea, which seldom exceeds 8 m. in width, and is in general much less, is separated from the sea by low downs; this gives them the advantage of irrigation during the rainy season. The fresh water descending from the mountains has no vent, and must therefore stagnate until it evaporates: hence these tracts produce much rice, though their soil is poor, consisting chiefly of sand.

The Neigherry hills constitute the S. extremity of the Ghauts, which are called the W. Ghauts, to distinguish them from another chain of mountains called the E. Ghauts. The last-mentioned mountains begin on the banks of the river Cavery (11° 20' N. lat.), and extend thence, first in a N.E. direction, as far as 13° N. lat., where, opposite the town of Madras, they turn to the N., and continue so to the banks of the river Kistna (near 17° N. lat.). Between this river and the Godavery are a range of hills, which connects them with the mountains which separate the Circars from the elevated country lying farther W. The E. Ghauts do not form an uninterrupted chain, being at several places broken by the rivers which rise on the E. declivities of the W. Ghauts, and descend to the Bay of Bengal. They also do not form one mass; but are frequently divided in several ridges,

by longitudinal valleys. These mountains do not rise to the elevation of the W. Ghauts; yet to the W. of Madras, the Nalla Malla mountains attain 3,000 ft. and more, and farther S. (near 12°) the Sherwahy mountains rise to 4,935 ft.

The extensive country enclosed between the two ridges of the Ghauts is an elevated table-land. Its surface extends nearly in a level, which is only here and there broken by short ridges or groups of hills rising a few hundred ft. above it. Its elevation above the level of the sea, where it is contiguous to the W. Ghauts, varies between 2,000 and 3,000 ft., and thus it may continue to the middle of the table-land; but it sinks in approaching the E. Ghauts, where, in most places, it has barely 1,000 ft. or less of elevation. Its soil is rather fertile, and well adapted to the culture of rice, where it can be irrigated, and where not, it produces abundance of wheat and other grain. The S. part is called the table-land of Mysore, and the N. that of Balaghaut.

The Eastern Ghauts are at a distance of about 150 m. from the sea, or coast of Coromandel. The surface of the intervening country extends mostly in wide plains, which here and there are interspersed by hills of no great elevation. The soil is dry, light, and sandy, but nevertheless it gives rich crops wherever it is irrigated, which is rendered easy by the great number of rivers descending from the Western Ghauts, or originating in the Eastern Ghauts. The coast is low, sandy, and without harbours, surrounded by shoals, and exposed to a very heavy swell, which renders it extremely dangerous during the north-eastern monsoon. Three large rivers descend from the eastern declivity of the Western Ghauts through the table-land of Mysore and Balaghaut, to this coast, and fall into the Bay of Bengal. The most southerly is the Caverry, which runs about 450 m. Farther N. is the Kistna, or Krishna, and the Godavery, the former flowing about 600, the latter 700 m. These rivers, though in many parts very valuable for irrigating the contiguous lands, are only navigable in the low plain of the Carnatic. On the table-land they in general have little water, and where they break through the Eastern Ghauts, they are broken by numerous rapids and cataracts.

On the parallel of the embouchure of the Caverry river (11° N. lat.), the peninsula may be traversed without passing any mountain. Here exists a great depression in the Western Ghauts, called the Gap of Coimbatore. The narrowest passage is at the fortress of Annimaly (77° E. long.), where the level low country between two mountain-ranges presents a valley about 12 m. wide. The elevation of the highest part of this gap is only 400 ft. above the sea-level. The whole country in this district is covered with large forest-trees, especially with teak; but during the rainy season it is converted into a swamp.

To the S. of the Gap of Coimbatore the Ghauts rise again with a very abrupt ascent: they attain also a great elevation. The Permaul Peak, situated W. of Dindigul, nearly in the middle between both seas, is 7,367 ft. above the sea-level, and according to the statements of the natives, the mountains farther W. rise to the snow-line. The chain lies here farther from the sea, leaving a low tract from 80 to 40 m. across between them, and runs SSW. towards Cape Comorin, terminating abruptly at a distance of about 20 Eng. m. from the Cape with a huge mass of granite, 2,000 ft. high: a low rocky ridge extends to the Cape. The mountains are here covered with thick forests.

The country W. of these Southern Ghauts is throughout intersected by inlets of the sea, which often run for great length parallel to the coast,

receiving the various mountain streams, and communicating with the ocean by different shallow and narrow openings. Between Cochín and Quilon these lakes form a continual series, being united to one another by short channels, and affording an easy means of communication. The low country, which extends for some miles inland from these lakes, has a good soil, and being abundantly watered, gives very rich crops of rice and other tropical productions. Still more vigorous is the vegetation in the valleys which are enclosed by the offsets of the mountains, but they are not cultivated with equal care. The low coast is here exposed to a continual and very heavy swell from the ocean.

The plain and nearly level country, which on the E. of the Southern Ghauts extends to an average width of between 70 and 80 m., is partly covered with extensive forests and partly with cultivated fields, yielding rich crops of rice: their irrigation is rendered easy by the numerous small rivers. Along the shores of the Gulf of Manaa, and of the Palk Strait are a great number of salt swamps and lagoons, which mostly communicate with one another. Between them and the sea are sand downs, which in some places extend to several miles across. The stagnating water renders these places very unhealthy.

Deccan, being placed between two seas and the conflict of the monsoons, is always cooled by sea breezes. Its surface being formed by a series of terraces, and lying within the tropics, enjoys all the advantages of tropical countries, without partaking of their disadvantages. On the sultry coast the luxuriance of vegetation is displayed in the cocoa-palm, the mango-tree, the cinnamon-laurel, and the pine-apple; it thence passes through forests of teak-trees to the table-land of Mysore and of Balaghaut, and still higher, on the cool summit of the mountains, it offers the fruit-trees and corn-fields of Europe, flax plantations, and rich meadows.

5. *The Hindoo-Coosh*.—The NW. extremity of the plain of the Indus is only about 300 m. distant from the plains drained by the Daria Amu, which form the southern districts of the level country that extends S. of the great depression, in which the Caspian Sea and the Lake of Aral are placed. This tract, between the S. and N. plains, is occupied by a mountain system, called the Hindoo-Coosh, which, like an isthmus, connects the great table-land of Eastern Asia with Iran, the most easterly of the table-lands of Western Asia. The whole tract is occupied by high and steep ranges, running in every direction, but the principal of them runs E. and W., and seems to be a prolongation of that high chain which is called on the great table-land of Eastern Asia, the Kuen-luen range. Many summits in this range rise far beyond the line of congelation. One of them, the Son Tchookeur, NE. of the town of Peshawer, is at least 22,500 ft. high; but that snow-capped enormous mass, which properly is called the Hindoo-Coosh, seems to attain a much greater elevation. The valleys of this mountain-region are but narrow, except that in which the river of Caubul flows, which is of considerable breadth. The mountains present mostly naked rocks on their steep declivities, but afford pasture ground where the slopes are more gentle.

Western Asia, or the countries lying west of the plain of the Indus, the Hindoo-Coosh mountains, and the plains of Bokhara, is, like Eastern Asia, an elevated table-land, but each differs considerably from the other. Whilst in Eastern Asia the table-land forms one mass, extending in all directions, that of Western Asia has nearly in its

middle and in the direction of its greatest extent, from SE. to NW., a deep depression, which at its south-eastern extremity, where it is occupied by the Gulf of Persia, varies between 30 and 300 m. in width, but farther to the NW. extends over the basin of the river Euphrates and the adjacent desert, so as to be from 200 to 500 m. across. The whole length of this depression, from Cape Ras el Had (Sat), the south-eastern point of Arabia, to Romkaka, where the Euphrates issues from the mountains and enters the plain, does not fall short of 1,500 m. in a straight line. On the NE. of this depression is the table-land of Iran, the mountain-region of Armenia, and the table-land of Asia Minor; the latter projects far beyond the depression. On the SW. of it is the table-land of Arabia, which latter is connected with the table-land of Asia Minor, by the mountain-range of Soristan (Syria), whose mountains separate the north-western part of the lowlands from the Mediterranean Sea. Besides, the table-lands of Western Asia do not rise to so high an elevation as the southern portion of the table-land of Eastern Asia: they attain only the height of the northern region, but being placed farther to the S. and nearer the sea, they enjoy a better climate and are more adapted to agricultural purposes. It is also to be observed that the table-lands of Western Asia descend almost everywhere with a steep descent to the adjoining plains or seas, and are not surrounded as those of Eastern Asia on all sides by lowlands.

6. *The Table-land of Iran (Persia)* extends from E. to W. from the plain of the Indus to that of the Euphrates, and from S. to N. from the Gulf of Persia to the Desht Kowar, or desert of Khiwa (36° N. lat.), and the southern shores of the Caspian Sea. The interior of this great tract of country extends in large and level plains, only in a few places broken by rocky hills, mostly unconnected with one another. The elevation of these interior districts seems rarely to exceed 5,000 ft. above the sea-level, and as rarely to descend to less than 3,000 ft. These plains are bounded on every side by a broad border of more elevated tracts, whose surface is diversified by mountain-ridges, valleys, and some table-lands of moderate extent.

The highest portion of this elevated border is at the eastern boundary of the table-land, contiguous to the plain of the Indus. From this plain the country rises in several steep ridges, running parallel to the plain, and including deep and narrow valleys. These mountains are called, S. of 29° , Hala mountains, and N. of this, Soliman mountains. Adjacent to these parallel ridges, on the west side, are several elevated plains of moderate extent, especially the plains of Kelat (29°), Kwella (31°), and Ghizni (33° and 34° N. lat.); of which the former is elevated between 7,000 and 8,000 ft., and the latter probably more than 9,000 ft.; yet they are cultivated, especially towards the hills that surround them, and the depressions of their surface, which frequently descend some hundred feet: the higher districts afford good pasture. All these tracts are very cold, and covered by deep snow during winter.

The southern border of the table-land of Iran, extending from the plain of the Indus as far W. as the Strait of Ormus, does not rise to a great elevation. From the sea, however, the mountains rise rapidly, having only a narrow low strip along the shores, but their height probably does not exceed 2,000 ft. North of this ridge is a mostly level plain, which, as it contains extensive plantations of date-trees, cannot have a great elevation; it is otherwise sterile, and has few spots which can be cultivated. North of this plain is another much

more elevated chain, the Wushutee mountains, which probably attain 5,000 ft. In this part the mountainous border of the table-land is hardly 120 m. across; but towards its western extremity a mountain-group projects northward (near 60° E. long.), the Surhad mountains (cold mountains), which seem to attain a higher elevation, but have several fertile valleys towards the E. From this mountain-group issues northward a rocky ridge, which is narrow, and in general low, but has a few elevated summits. This ridge, advancing to the northern border, divides the interior plain of Iran in two parts, and forms the political boundary between Afghanistan, or East Iran, and Persia, or West Iran.

By far the greater part of the plain of East Iran is occupied by a sandy desert, which, from the Wushutee mountains, extends northward to the parallel of Ferrah, Ghirish, and Kandahar (from 27° to 32° 10' N. lat.), nearly 400 m., and from E. to W. nearly the same distance. Its southern part, the desert of Beloochistan, is covered with fine sand, which, when moved by the wind, rises some feet above the solid surface. It is entirely uninhabited. The northern portion, the desert of Sigestan, or Seistan, has a few small oases, and considerable tracts of fertile and cultivated ground along the banks of the river Helmund, which rises on the western declivity of the Hindoo-Coosh, and runs about 500 miles. Half its course is through the desert, and it loses itself in the Lake of Zareh, about 120 m. long and 50 m. wide, but when swelled by the melting of the snow in the more elevated regions, it occupies a space more than double these dimensions. Along the northern border of the desert lies a country whose surface is partly hilly and partly undulating, but its breadth is not considerable, being between 50 and 80 m. across.

The northern border of East Iran is formed by an extensive table-land of very broken surface; the upper part extends in wide level plains, but they are frequently intersected with deep valleys. This region, the Paropamisus of the ancients, has been called by modern geographers the mountain-region of the Eimaks, and Hazareh, from the savage nations which inhabit it. It extends S. and N. about 400 m., and nearly double that extent E. and W. The ground is cultivated only in the narrow valleys, but the extensive pastures nourish large herds of cattle and sheep. On the N. it is separated from the plain of Bokhara by the Hazareh mountains.

The interior plain of West Iran is of greater extent, its length from the boundary of Afghanistan to the neighbourhood of the Caspian Sea, N. of the town of Kasbin, exceeding considerably 500 m., whilst its mean width may be 400 m., but towards the north-western extremity it narrows to 150 m. and less. Its middle is occupied by a desert, called the Salt Desert, its surface being impregnated with nitre and other salts. Towards the boundary of Afghanistan it may be 250 m. across, but farther W. its width hardly exceeds 100 m. Its length is 400 m., or nearly so. It is entirely uninhabited. Those portions of the plain which extend on both sides the desert have a broken surface, but the level plains are extensive, and the hills, though sometimes high, do not occupy a great space. These districts, far from being infertile, are frequently well cultivated and abound in pastures. In many districts fine fruits are raised plentifully: but rocky plains also occur frequently.

The northern border of West Iran seems not to exceed 100 or 120 m. in width. It is likewise composed of different ridges, which mostly run in the direction of the table-land E. and W. Though very rugged and steep, the mountains do not rise

to a great elevation above the elevated plains lying southward, before they arrive at the meridian of 56° or 55° . From hence, westward, they rise higher, but their width narrows to from 60 to 80 m. This more elevated part of the chain is called the Elburz mountains, and runs parallel to the southern shores of the Caspian Sea, at an average distance of 20 m., descending to it with a descent which is extremely rapid. Its offsets, which are not less steep, though less elevated, fill up the space between the principal range and the sea, with the exception of a narrow stripe along its shores. The valleys, though not very wide, are very fertile.

The SW. mountainous border of the plains of West Iran is still more distinctly marked. The mountain-tract, about 80 or 90 m. wide, extends from the Straits of Ormuz along the Gulf of Persia, and farther N. along the plain of the Euphrates, to the place where the Tigris, breaking through the mountains, enters the low plains N. of the town of Mosul. This mountain-tract consists of from three to seven ridges, running parallel to each other, and separated by as many narrow longitudinal valleys, which sometimes are many days' journey in length. They are separated from the sea by a narrow low coast called the Gurmair (warm region), and rise in the form of terraces towards the interior. The valleys in the southern portion of this region are cultivated, but N. of the parallel of 30° N. lat. they are inhabited by different tribes of Kurds, who prefer a nomadic life and the rearing of cattle. This northern range was anciently called Zagros, but is now known under the general name of mountains of Kurdistan.

The great commercial road which connects the western countries of Asia with India, traverses the table-land of Iran. It runs between the deserts and the northern mountain border, through the fertile and cultivated district between them, and passes from the town of Tabriz in Azerbaijan through Casbin to Teheran, and thence to Nishaboor, Meshed, and Herat. Thence it declines from its eastern direction to the S. to avoid the mountain region of the Eimakh and Hazareh, and leads to Kandahar, where it passes over part of the table-land of Ghizni to Cabul. It then follows the valley of the river Cabul to Peshawar and Attock, where it passes the Indus, and traversing the Penjab, enters the plains of the Ganges.

7. The Mountain-region of Armenia.—The most northerly and narrow extremity of the interior plain of Iran reaches to the vicinity of the river Kizil Ozein, and N. of it extends a country filled with mountain-masses, which rises higher and higher as they proceed northward. East of Tabriz is Mount Sellevan, which attains an elevation of 12,000 or perhaps 13,000 ft. above the sea-level, and other summits seem not to be much lower. Between these mountains are numerous deep valleys, which are partly cultivated, but the inhabitants mostly depend on their herds of cattle and sheep for subsistence. A few plains lie embosomed between the mountains: the most extensive are those which are filled up by the Lakes Urmia and Van. The former is 800 m. in circumference, and its waters are salt, more salt than those of the sea, but they are perfectly clear. The Lake of Van is somewhat less in extent, and its waters are likewise salt, but not to such a degree. North-east of the Lake of Van the mountain-region attains its highest elevation in Mount Ararat, whose summit is 17,230 ft. above the sea-level, and the country which extends W. of it to the sources of the river Aras and the two upper branches of the Euphrates, the Kara-su and Murad, has at least 6,000 ft. of absolute elevation, as the town of Erzeroum is

5,500 ft. above the sea-level. Four mountain-ranges, rising from 4,000 to 5,000 ft. above their bases, run E. and W. between 38° and 41° N. lat., and the most northerly descends to the Black Sea with great steepness, and so close to its shores that no road can be made along the coast E. of Trebizond. Though the mountains occupy the greater portion of its surface, the valleys along the large rivers are so wide that they may be taken for plains, being from 10 to 15 miles across. These valleys, though cold, are mostly very fertile, and yield rich crops of corn, whilst the declivities of the mountains afford abundance of pasture. The farthest south of the above-mentioned mountain-ranges, that which, branching off from Mount Ararat, contains the sources of the Murad river, or eastern branch of the Euphrates, and which farther W. is broken through by this river, after its two upper branches have united, is to be considered as the continuation of Mount Taurus, which traverses Asia Minor. But it does not constitute the southern boundary of the mountain-region of Armenia: this is constituted by a much less elevated mountain-ridge running E. and W. between the rivers Euphrates and Tigris, about 37° 20' N. lat., and on whose southern declivity the town of Merdin is built. After breaking through this range at Romkala, the Euphrates enters the plain; the Tigris does the same N. of Mosul.

8. Natolia, Nadoli, or Asia Minor.—This extensive peninsula is to be considered as a western continuation of the mountain-region of Armenia. It is nearly of the same breadth, and lies between the same parallels (37° and 41°); but there is doubtless some change in the direction of the mountains where both regions border on each other. From the Gulf of Iskenderoon, on the side of the Mediterranean, to the town of Trebizond on the Black Sea, the ranges run from SW. to NE., as is also clearly indicated by the south-western course of the Euphrates between 39° and 36° N. lat. These ranges are a prolongation of those of Soristan, which continue southward in the same direction. The middle part of this tract, between the towns of Sivas, Malatiah, and Caesaria (Kaisariyyeh), forms a table-land of considerable elevation; the winters are severe and snow falls abundantly; the summers are short and not warm. Its surface is a succession of levels, divided from each other by ridges of low elevation; the plains are fertile and produce rich crops of corn. The southern border of this table-land is Mount Taurus (near 38° N. lat.), which sends off some branches to the Mediterranean, among which the Alma mountains (Mons Amanni), which enclose the Gulf of Iskenderoon on the E., seem to attain the highest elevation. A northern offset of the Taurus, the Ali Tagh mountains, terminates near Caesaria with Mount Erjish, which is always covered with snow, and probably rises to 12,000 ft. above the sea-level.

From this eastern and much elevated border the peninsula extends nearly 500 m. westward. Along the Mediterranean as well as along the Black Sea, it is traversed by ranges of mountains. That which runs along the Mediterranean constitutes a continual range of elevated mountains, the Mons Taurus of the ancients. The average distance of the highest part of it from the sea may vary between 80 and 70 m.; but the whole tract lying between them is filled up by mountains of considerable elevation. They attain the greatest elevation on the broad peninsula between the Gulfs of Adalia and Makry (29° and 31° E. long.), where Mount Taghtalu is 7,800 ft. high. But the mountains farther inland are even in August covered with snow for a fourth part of the way down their

sides, which indicates an elevation of at least 15,000 ft. above the sea-level. Farther W. the mountains rapidly decrease in height, and are only of moderate elevation where they terminate on the shores of the *Ægean Sea*, on both sides of the Gulf of Kos. The rocky masses of this chain press so closely on the shore of the sea, that commonly only a narrow stripe of low or hilly surface intervenes, except along the innermost part of the Gulf of Adalia, and along the N. shores of that of Iskenderoon, where low plains of moderate extent occur. In some places high mountains constitute the very shores of the sea for many miles together.

The mountains which occur along the Black Sea do not form a continual range, being frequently broken by deep, and commonly open valleys, by which several larger or smaller rivers find their way to the sea. They therefore constitute several separated ranges, and have neither in ancient nor in modern times been designated by a general name. The several ridges which lie between these valleys run E. and W., parallel to each other, forming commonly a wider mountain-border on the N. of the peninsula, than the higher chain of the Taurus on the S.; their mean breadth may be 100 m. None of their summits pass the snow-line; the highest which has been measured is Damaun-Tagh, the Mons Olympus of the ancients, SE. of Brusa, more than 9,000 ft. above the sea-level. The wide and extensive valleys which lie between the mountain-ranges of this tract contain much cultivated land, which sometimes extends, even on the gentle slopes of the mountains themselves, whose higher parts are used as pastures, whilst nearly the whole of Mount Taurus is only available for the latter purpose.

The country which lies between these two mountain-districts, and the meridians of Cæsaria ($35^{\circ} 30'$) and Kutahiya ($30^{\circ} 20'$), is, properly speaking, a plain whose elevation has not been determined, but it does not seem to be much above or below 2,000 ft. above the sea. Its surface is not every where level, but it exhibits extensive level plains, and the ranges of hills which occasionally occur do not occupy much space, nor are they commonly much elevated above their base. The soil is dry, but not sandy; and, along the watercourses, or where water for irrigation can be got, rather fertile; but the tracts where no water can be procured are very extensive, and serve in winter as pasture grounds to several nomadic tribes, who in summer retreat to Mount Taurus, or the high lands E. of Cæsaria: even the fertile tracts are not cultivated, because exposed to the continual robberies of these tribes. The soil in the S. districts is strongly impregnated with nitre and other salts, and hence in these parts a considerable number of lakes occur whose waters are salt, and from which great quantities of salt are procured. These lakes have, as is commonly the case with salt-lakes, no outlet. The most important of the rivers which drain this table-land is the Kizil-ermak, which rises at a short distance E. of Sivar, and runs 200 m. westward, and afterwards nearly 300 m. NE. and N. It is the Halys of the ancients.

The table-land extends even W. of the meridian of Kutahiya, but in these parts its surface begins to be broken in hills and dales. The hills increase in height as they proceed westward, and the valleys sink deeper, and become wider. Both the hills and valleys continue to the shores of the *Ægean Sea*, indicated by the indented sea-coast, which consists of boldly projecting promontories and deep bays between them, forming excellent harbours. This is by far the best portion of Asia

Minor, the cultivated land extending over the valleys, and on the sides of the mountains, and yielding rich crops of rice, cotton, and corn, whilst the gardens produce many kinds of excellent fruits. This region is also the most populous, and contains probably more than half the population of the peninsula.

9. *Soristan* or *Syria*, which unites the table-land of Nadoli with that of Arabia, is a country which has a very peculiar physical constitution. Two elevated ranges run from its northern extremity (37° N. lat.) through its whole length, and terminate on both sides the Gulf of Akaba (28° N. lat.), the farthest east of the two gulfs which the Red Sea forms at its northern extremity. But both mountain-ranges, with the intervening valley and the adjacent shores of the Mediterranean, occupy only a space from 60 to 70 m. across. The most easterly of the two mountain-chains lowers considerably soon after having branched off from the Alma Tagh; and in the parallel of Aleppo ($36^{\circ} 10'$ N. lat.) it sinks down to hills of moderate elevation, nor does it rise much higher until it reaches $37^{\circ} 20'$, where it rises to a considerable height, probably 5,000 ft. and more: it is called Jebel Eshari, the Antilibanus of the ancients. It preserves a considerable elevation as far S. as $32^{\circ} 55'$, where it lowers again, but soon widens in an extensive mountain-region, called El Kura which extends to $32^{\circ} 10'$. Hence it continues as a rocky ridge of moderate elevation on the eastern side of the Dead Sea, to its southern extremity E. of the Gulf of Akaba. The western chain is much higher, at least in the northern districts. As a high mountain-range, it skirts the eastern sides of the Gulf of Iskenderoon, and at some distance S. from it is broken by the river Aazsy (Orontes), but S. of that river it again rises to a considerable elevation. Its highest portion, however, is between $34^{\circ} 30'$ and $33^{\circ} 20'$: this is the famous Libanus of the ancients, its northern and more elevated portion still retaining the name of Jebel Libân: but towards the S. it is called Jebel el Drus, from its being inhabited by the Druses. The highest summits of the Jebel Libân are always covered with snow, and that which bears the name of Jebel Makmel ($34^{\circ} 12'$) attains to 12,000 ft. above the sea. S. of $33^{\circ} 20'$ the mountains sink much lower, and these low ridges continue to its southern extremity, on the rocky peninsula between the Gulfs of Akaba and Suez. Near the most southerly point they terminate with the stupendous and famous mountain-mass of Mount Sinai, whose highest summit is probably more than 9,000 ft. above the sea.

The valley, which extends between the two ranges, has nowhere a great width. N. of 32° N. lat. it may vary between 8 and 20 m., but is much wider N. of 34° N. lat. than between the two ranges of the Libanus. From the southern extremity of the Dead Sea, to the Gulf of Akaba, it is reduced to a narrow, rocky, and waterless cleft in the mountains, probably not more than 1 m. or $1\frac{1}{2}$ across. The northern and wider part of the valley is watered by the river Aazsy (the Orontes of the ancients); the middle and highest part, lying between the two ranges of the Libanus, by a small river, the Liettanie: this district is probably 2,000 ft. above the sea. S. of the Liettanie, the valley is watered by the Jordan, which traverses the Lake of Tiberias, and empties itself in the Dead Sea, after a course of about 100 m. The Dead Sea, called by the Arabians Bahr-el-Loot, is about 50 m. long and nearly 15 m. broad where widest; it is remarkable for the asphalt or bitumen found on its shores, and for the remarkable events and associations connected with its history.

Between the western mountain-range and the shores of the Mediterranean, are some extensive plains, S. of 33° , where the country for many miles inland is low and sandy, but without harbours. Between 33° and 35° is the country of the ancient Phœnicians, lying between the sea and the Libanus. The whole tract, from the sea to the mountains is filled with hills, and, in advancing to the shores, these hills form numerous small harbours: the country further N. is of the same description.

The southern part of the region just described is nearly a desert. South of the Dead Sea the surface is mostly nothing but bare rocks, destitute of vegetable mould and water. It is therefore called Arabia Petrea, or Stony Arabia. North of it is Palestine, whose plain towards the Mediterranean is nearly a desert, on account of its sandy surface; but the higher portion, between this plain and the Jordan, is rather fertile, where cultivated, though some districts have a stony soil. The valley of the Jordan is not distinguished by fertility. The country west of the Libanus is more fertile, especially along the range, and in its small valleys, and even on its declivities; but on its side some of the valleys are sterile, and the E. declivity of Libanus is a naked rock. North of Libanus the country improves; and is in general fertile, and partly well cultivated. East of the mountain-region is the Syrian desert, which belongs to the great depression in the interior of Western Asia; but this desolated country does not advance to the foot of the ranges: it is divided from them by a tract of most fertile country, intermixed with sandy spots. This tract may be 50 or 60 m. across, but it becomes more sandy and sterile in advancing further E.

10. *Arabia* is a table-land of considerable elevation, but we are unable to determine the line where it begins to rise from the low plain of the Syrian desert. Probably this line is a good way S. of the caravan road leading from Damascus to Bussorah, but not far from a line drawn from the most northerly corner of the Gulf of Akaba to the mouth of the Euphrates. The table-land rises abruptly on the other three sides, at a distance of from 3 to 40 m. from the sea, except along the northern coast of the Gulf of Persia, to which it descends with a gentle declivity. The low narrow border, with which the table-land is encompassed on all sides, is called the Tehâma, and the table-land itself Nejd, or Nedjed. The rocky and uneven border, which divides the Nejd from the Tehâma, is mostly called Jebel (mountain), or Hedjaz.

The Nedjed is divided into two parts by a rocky ridge, which cuts the Tropic Circle with an angle of about 80° . It begins on the W. near 22° N. lat., and terminates near the Gulf of Persia, near 25° . This ridge, called Jebel Aared, divides the table-land into two parts, of which the southern is nearly a complete desert, and seems almost uninhabited. North of the Jebel Aared, sand also covers by far the greater part of the Nedjed, but is in numerous places interspersed with rocky tracts and some hilly grounds; where, during the rainy season, water collects and forms small streams, by which these tracts become inhabitable, and even fit for the culture of some kinds of grain; especially dhourrah, a kind of millet. There occur also extensive plantations of fruit-trees, especially dates. The sandy desert which separates these inhabitable spots is also covered, after the rainy season, with grass and flowers, and the Bedouins, or wandering Arabs, find there all the year round subsistence for their horses, camels, and sheep.

The Hedjaz, or rocky edge of the Nedjed, is

narrow. North of the Tropic, where it probably never exceeds 15, or at the utmost 20 m., except in two or three places where it is contiguous to a rocky district of the Nedjed. South of the Tropic it considerably widens, and here its mean breadth may be about 50 m.: S. of Mekka the Tehâma and Hedjaz together extend more than 100 m. from the Red Sea. The Hedjaz resembles much the rocky tracts enclosed by the Nedjed, except that water is more abundant, and that therefore it is better adapted to agriculture. In it are extensive plantations of coffee.

The low plains of the Tehâma have a sandy soil, which it is supposed has been deposited by the sea along the foot of the great mountain-mass, by which the Hedjaz and Nedjed are supported; and it is maintained that it is still increasing in width. As it does not rain, frequently, for many consecutive years, it could not be cultivated but for the watercourses, which, during the rainy season, descend from the adjacent Hedjaz. Irrigated by them, with the addition of some artificial means, these sultry dry plains yield good crops of some kinds of grain, and are rich in fruits, dates especially.

11. *The Plain of the Euphrates* comprises the whole of the great depression in the interior of Western Asia, except that portion which is occupied by the Gulf of Persia. Its northern boundary is formed by that range of mountains which, on the W. of the Tigris, begins a little above Mosul, and running westward near the towns of Mardin and Orfa, terminates on the banks of the Euphrates, near Rumkula. On the W. it is bounded by the table-land of Iran, on the E. by the mountain-region of Syria, and on the S. by the northern declivity of the Nedjed. That portion of it which lies contiguous to the Nedjed and Syria, up to the eastern banks of the Euphrates, is a complete desert, mostly covered with sand, and subject to the pestiferous blast of the *simoom* or *samiel*. It is, however, inhabited by some wandering tribes of Arabs; and through it run the roads which lead from Aleppo and Damascus to Bussorah. It is called the Syrian Desert. It spreads even beyond the Euphrates to a considerable distance from the river in its middle course, where its banks are hardly better inhabited than the desert itself. In the northern districts of the plain sand also prevails, but it is frequently interspersed by extensive tracts of rocky ground; and as these patches have commonly mould on them they are cultivated and planted with trees. This tract, through which runs the road from Aleppo to Bagdad, extends on the banks of the Tigris to the last-mentioned place. South of Bagdad the country between the two rivers is fertile, when irrigated, which is done by water derived from the rivers themselves, and from several canals; but those tracts, which lie to the E. and W. of these rivers, are only cultivated along their banks, sandy deserts beginning at a short distance from them. The two rivers, which water this great plain, the Euphrates and Tigris, rise nearly in the same parallel, between 38° $30'$ and 39° $30'$ N. lat., on the declivities of the same mountain-range in Armenia; but the Euphrates, running first W., has already had a course of 500 m. before it arrives at the parallel of the sources of the Tigris. It then by degrees turns SE., and continues in that direction, approaching gradually nearer to that river, and unites with it about 100 m. from its mouth. The united river is called the Shat-el-Arab, and falls in the northern extremity of the Gulf of Persia.

12. *Mount Caucasus*, which at present is considered as the boundary between Asia and Europe,

does not constitute a part of the table-lands and mountain-regions of Western Asia, being separated from the mountain-masses of Armenia by a kind of valley, about 100 m. across. This valley is a level plain, where it approaches the Caspian Sea, and at a distance of about 100 or 150 m. from it. Farther W. the surface of the valley is hilly, intermixed with some undulating plains of moderate extent. It rises in higher hills, between 43° and 44° E. lon., where a ridge of low mountains forms the watershed between the river Kur (the Cyrus of the ancients), and the Rioni (the Phasis of the ancients). The most westerly district of the valley, which is watered by the Rioni, is almost entirely filled with hills, the valleys and level tracts occupying only a small part of its surface.

Mount Caucasus itself rises from this valley, with a rather steep descent, and forms a continual mass of high rocks, running from ESE. to WNW., from the shores of the peninsula of Abaheron, on the Caspian Sea, to the small town of Anapa on the Black Sea, a distance hardly less than 700 m. Its width does not exceed 120 m. where widest, and hardly more than 60 or 70 m. where narrowest. This mass of rocks covers 56,000 sq. m., or nearly the surface of England and Wales. Its highest summit, Mount Elbroz, or Elborus, attains an elevation of 17,785 ft., and is situated nearly in the centre of the range. The portion of the range, which extends W. of that high pinnacle, nowhere rises to the snow-line, but several snow-peaks occur to the E. of it, among which Mount Kazbeck is 14,500 ft. high. Traces of agriculture are met with in but few of its valleys, the inhabitants living almost exclusively on the produce of their flocks. This mountain-system is remarkable for the great number of nations, belonging to different races, which inhabit its elevated valleys. At both extremities of Mount Caucasus are places where the soil is impregnated with naphtha or bitumen, especially in the peninsula of Abcharon.

13. *The Islands of Asia.*—The *Aleutian* islands, which extend between the peninsula of Kamtschatka and the peninsula of Alashka, in America, as well as the *Kurile* islands, which lie S. of Cape Lopatka, and terminate near the eastern shores of Japan, are of volcanic origin, and in some of them are still found active volcanoes. Their soil is mostly rocky, and destitute of wood, but the most southerly islands of the last-mentioned group are cultivated on the lower grounds.

The large island, called *Sakhalien*, *Tarakai* or *Karafu*, extending along the coast of Manchouria, forms an enormous mass of rocks, which rise towards its centre probably to the height of 8,000 or 4,000 ft., and perhaps even higher.

The islands of *Japan*, consisting of four large (*Yeo*, *Nippon*, *Sitkohf*, and *Kioosioo*) and a considerable number of smaller ones, are also formed by immense masses of rocks, which, especially on Nippon, rise above the snow-line. In most places the steep or gentle declivities of the rocks extend to the very shores of the sea, but at others plains of considerable extent extend between them. Though the soil does not seem to be distinguished for fertility, it is rendered productive by the great care with which it is everywhere cultivated; corn-fields extend on the slopes of the mountains to a considerable elevation. In many districts the surface consists of lava.

The island of *Formosa*, divided from the continent by a channel about 70 or 80 m. wide, extends from N. to S. more than 200 m. Its southern extremity is a level, but not of great extent, for not far from it rises that mountain-range which traverses the island in its whole length, and which

in its higher parts seems to attain an elevation of from 10,000 to 12,000 ft. above the sea. Its valleys towards the western shores, and the small level spots which occur along the sea are fertile and well cultivated. The country E. of the range is not known.

The island of *Hainan*, near the S. coast of China, is separated from the mainland by a strait hardly more than 10 m. across. It extends from SW. to NE. more than 180 m.; its average width is about 100 m., or somewhat more. In its centre rises a mountain-mass to a considerable height, from which some lateral ridges branch off, but they do not reach the shores, except in some parts on the E. coast. Everywhere else a low flat country separates the mountain from the sea. The flat districts are either sandy, or covered with grass, and without trees, like the savannah; in some places they are cultivated and fertile, as are also the valleys.

The extensive group of the Philippines, which lies between $18^{\circ} 30'$ and $5^{\circ} 30'$ N. lat., comprises more than 100 islands; of which, however, most of the smaller ones are uninhabited. Most of them are mountainous, and the smaller ones naked rocks; but the larger islands contain many plains of considerable extent, and of a very fertile soil. They are well watered—perhaps too much so: some of them are volcanic.

The *Sooloo* islands, between Magindanao and the eastern coast of Borneo, have a rocky and uneven soil, but it is very fertile, being covered with a thick vegetable mould. But the large island of Palawan, lying farther N., is a rocky mass, rising in the middle to a high range, in which some summits attain a great height. The rocks are commonly bare; in some parts the sides of the mountains are covered with trees; but agriculture is confined to a few small spots on the coast.

Borneo, the largest of the Asiatic islands, and not much inferior to France in extent, is nowhere mountainous except in the peninsula which projects NE. from the main body of the island; and even there, as it appears, the mountains do not attain a great elevation. The remainder, which comprises at least four-fifths of its whole surface, seems to be a plain, on which a few ridges occur at great distances. This plain has an alluvial soil, to a distance of several miles from the shores, and afterwards the country rises gradually, perhaps 200 or 300 ft. The whole of this plain, as far as it is known, seems to possess great fertility; and the want of culture which everywhere is visible, is probably the effect of the too great abundance of water, as the island is subject to continual rains. All kinds of productions and fruits commonly met with between the tropics, grow to perfection.

The island of *Celebes*, divided from Borneo by the straits of Macassar, is traversed by four ranges of mountains, which, however, do not attain a great elevation, except where the four mountain-ranges and the four peninsulas, of which the island consists, meet together; in this part the mountains are of considerable height. The surface of the whole island is hilly or mountainous, the flat tracts along the coast being of small extent. Its soil is rather sandy, and not distinguished by fertility. Its produce in rice is not equal to the consumption of the inhabitants; but it produces many tropical fruits, and sago in great abundance.

The *Moluccas*, lying W. of Celebes, consist of some hundred of smaller and larger islands, divided in several groups between 5° N. lat. and 8° S. lat. They rise mostly with a steep ascent from the sea-shore, but rarely to a considerable elevation. Many of them seem to owe their origin

to volcanoes; and on eight, still exist volcanoes in activity. Their soil, though mostly sandy and stony, is fertile, and particularly adapted for some productions. Amboyna has large plantations of cloves, and the Banda group furnishes muscat nuts and mace. The culture of rice and other grain is very limited, as the soil seems not favourable to their growth; but this want is supplied by the extensive plantations of sago-trees.

That series of mostly considerable islands which begins on the E. with the island of Timour and terminates on the W. with that of Bali, including the islands of Rotti, Savoo, and Sandelbosh, which lie S. of the series, are called by geographers the *Lesser Sunda Islands*, to distinguish them from the group of the *Larger Sunda Islands*, comprising Borneo, Celebes, Java, and Sumatra. The Lesser Sunda Islands are mountainous; and in some of them the mountains rise to 8,000 or 9,000 ft. above the sea, and probably higher. Several of them are active volcanoes, which frequently bring destruction over the islands in which they are situated. We are not well acquainted with these islands, nor with the degree of fertility they possess; but from the few indications we have received, it may be inferred that, in general, they are as far from being sterile, as from an exuberant productiveness. Many of the tropical productions grow to perfection.

Java, the most important of the islands of the Indian Ocean, is properly a continuation of the former series. It extends in length nearly 700 m., but its breadth hardly exceeds 100 m., where widest. A continuous chain of mountains runs through the island in its whole length, lowering more rapidly towards the N. than the S., where the coast is high and nearly inaccessible. Some summits of this chain rise to more than 12,000 or 13,000 ft. The highest are the Semeero and Tagal. Most of these summits are volcanoes, either extinct or still active, and their frequent eruptions have in later times laid waste several districts. The more fertile tracts lie along the northern shores, which are low, and from which a flat country extends several miles inland. Their fertility is very great, and produces rich crops of every kind of grain or roots cultivated between the tropics. But part of these flat lands are so low and so badly drained, that they are converted into swamps during the rainy season. Some tracts preserve their swampy soil all the year round; and hence arises the insalubrity of these coasts.

Sumatra, only second to Borneo in extent, is 900 m. long and from 150 to 230 m. wide. In its length it is traversed by a mountain-chain of great elevation, several of its summits exceeding 12,000 ft. of elevation: Mount Ophir exceeds even 13,000 ft. Many of these summits are volcanoes, but most of them appear to be extinct. The volcano Gunong Dempo is more than 11,000, those of Ber Api and Barawi more than 12,000 ft. high. The declivities of these mountains extend in many places to the western shores, which therefore afford several good harbours. The eastern shores are flat and sandy, and the adjacent plains extend in some places 100 m. and more inland. Some tracts of these plains are swampy, and others sterile and covered with sand. Still a great part of its surface is fertile, and affords many valuable productions. The western districts, being more uneven and consequently better drained, are more fertile and much more healthy. In the extensive woods which cover the declivities of the mountain, the camphor-tree is frequent, and yields the best camphor. From the eastern shore extensive shoals extend far into the Straits of Malacca, and

render the navigation tedious and difficult. East of this island, and towards its southern extremity, is the island of Banca, famous for its inexhaustible mines of tin.

Ceylon, divided from the peninsula of the Deccan by the Gulf of Manaar and Palk Strait, is from S. to N. 280 m. long, but its greatest breadth does not exceed 140 m. In the middle of the island, and towards its southern extremity, on both sides of 7° N. lat. is a mountain-mass, which extends over nearly an eighth part of its surface. The mean elevation of this mass may exceed 1,000 ft. above the sea, though some of its more elevated valleys rise to nearly 4,000 ft. This mountain-mass is overtopped by several high summits, among which the Adam's Peak attains 6,152 ft.; but Pedrotallagalla, the highest pinnacle, is 8,280 ft. above the sea. This mountain-region is surrounded by a hilly country, to a distance of 10 or 12 m. and more. Its mean elevation above the sea varies from 400 to 1,000 ft. This hilly region may in some degree be said to extend to the very shores of the sea in the S. districts; for the country contiguous to the coast between Batticaloa, on the E. coast, and Negumbo, on the W., is not level and undulating, and the coast itself is rather high. The northern half of the island is a level plain, and it is supposed that, even in the interior, it does not rise above 300 ft. Its coast is everywhere flat and sandy, and remarkable for the great number of lagoons with which it is skirted. These lagoons increase in size during the rainy season, so as to flow into one another, affording an inland navigation for boats, in some places for 60 or 80 m. Along the whole of the eastern coast, from Point Pedro to Dondrah Head, and hence to Negumbo, the sea is deep, and may be navigated by vessels of any burden; but the W. coast, N. of Negumbo, as far as Point Pedro, is surrounded by a shallow sea, in which only vessels of 100 tons can be used; and the common vessels employed in this trade vary between 25 and 50 tons. The fertility of the island is very great; sandy tracts indeed occur, but they are not extensive, and produce commonly good crops, when irrigated. Swamps, which in the other islands of the Indian Ocean, cover great tracts of the low country, are rare in Ceylon, and of small extent. The islands and islets of the Philippine and Indian Archipelagoes are computed at 6,000. The Dutch possessions are calculated to have a population of 17,000,000; the Spanish of 5,000,000; and the British of 250,000. In 1860, the import and export trade of the Dutch population was 14,747,414*l.*; of the Spanish 2,160,000; and the British, 16,480,152*l.*

II. BOTANY OF ASIA.—Temperature, soil, humidity, and light are the principal agents in the geographical distribution of plants. These elements exist under greater variety in Asia than in any other region; and hence the amount and diversity of Asiatic vegetation are absolutely without a parallel. It is not alone the extent in lat. of this vast continent, though stretching from the equator to the highest N. parallels; it is not simply the different elevations of its surface, though of these the greatest and least are respectively 27,000 ft. above and 110 ft. below the level of the sea; it is not even the abundance of water in one district, and its almost total absence in another, which will or can account for this amount and diversity. Powerful as are these causes in influencing the physical conditions of any region, one still more powerful exists in Asia; viz., the very peculiar nature of its conformation. The centre is a high table-land, varying from 6,000 to perhaps 15,000 ft. of elevation, bounded on every side by high mountains, which effectually shut it out from

the sea, and on the exterior sides of which the kingdoms of Asia are arranged in every variety of inclination. The difference of aspect thus induced, still more than either lat. or elevation, serves to divide the whole continent into five great botanical regions, which, however subject to subdivision among themselves, are distinguished from each other by peculiarities as striking as though the Atlantic or Pacific rolled between them. N. from the great table-land, the vast country of Siberia slopes to the Arctic Ocean. The intensity and duration of the cold in this dreary region prevent the thriving of any but the most hardy plants, except in the S. districts; where in addition to the effects of lower lat., vegetation is protected by mountain ranges, which screen it from the freezing north-easterly winds. The oak and hazel are found in Daouria, on the border of the country of the Manchoes (Gmelin, Flor. Sib., i. 50); but their size is diminutive, their vegetation languid; nor are they met with in any other district N. of the Altai mountains. (Pallas, Flor. Russ., i. 3.) Yet the well watered lands of S. Siberia abound in thick forests, consisting of birch, willow, juniper, maple, ash, pine, alder, fir, larch, poplar, aspen, and elm trees. (Gmelin, i. 150-180, iii. 150; Pallas, Flor. Russ.; and Voy. en Russ., passim.) Of fruits there are the Siberian cedar (*Pinus cembra*), the nut of which is an article of commerce; two or three species of raspberries, blackberries, and other bramble fruit; a species of cherry (*Prunus fruticosus*), from which is distilled a wine; bilberries, whortleberries, and the Siberian apricot. Gmelin (iii. 173) gives a list of four species of currants; and Pallas (Flor. Russ., i. 20-23) one of five species of pears; but the fruit of these is valueless, with the exception of one species of currant, which is confined to the banks of the Argoon, a tributary of the Saghalien, in the SE. corner of Daouria. During the short but powerful summer, the Siberian soil is covered with flowering and aromatic plants in immense profusion. (Gmelin and Pallas, passim. See also Georgi's Phys. Geog., vol. iii.) But these, as well as the timber, gradually diminish towards the N.; till above the 60th parallel scarcely anything remains but the hardy beech and a few of the more vigorous lichens and mosses. Gmelin remarks (Preface, xlii.) that vegetation undergoes a marked change E. of the Yenisei; and, as it is a well-known fact that temperature decreases towards the E., it is not surprising that this should be the case; but the unproductive nature of the soil seems to have been overrated; for, in 1830, an agricultural society was founded at St. Peter and St. Paul, in Kamtschatka, from whose paper (of Nov. 20, 1830) it appears that the return of wheat raised in that district was 13½ for 1, of rye 21 for 1; and that the cultivation of buckwheat, Himalaya barley, and other grains had proved equally successful. The potato, cabbage, onion, beetroot, chicory, and melon had also thriven; and though the cucumber had failed, its failure was owing not to the impracticability of the soil, but to the vines having been destroyed by rot.

The second botanical kingdom of Asia is contained in the great central table-land itself. This is unquestionably the highest and most extensive plateau in the world, having for its bearers the mountains of Altai and Yablonoi to the N.; the Manchoorian mountains E.; the Himalayas and the mountains of China to the S.; and on the W. the Beloi Tagh, the Elburz, and the Persian mountains. Lying at a great though not equal elevation, bounded and intersected by lofty mountain ranges, and without a single natural outlet to the ocean, the climate, soil, hydrography, and general

physical features of this vast region (occupying more than two-fifths of Asia) are all of a very peculiar kind. The characteristics of the first are dryness and coldness; the second consists of a dry sand, sometimes broken by patches of verdure, at others stretching out into immense deserts, like that of Gobi or Shamo; and the water system consists of lakes without outlets, the final recipients of many rivers, some of them of considerable length and magnitude. Many of the streams are, however, absorbed in the sandy soil. Wood of all kinds is extremely scarce in these high and consequently bleak regions; so scarce that the nomadic inhabitants use the dung of their cattle for fuel (Du Halde, iv. 18), and similar materials not unfrequently serve for the groundwork of their gilded idols. (Marco Paulo, lib. i. c. 49.) On the S. slopes of the table-land are found oaks, aspens, elms, hazels, and walnut trees; but all, even on the immediate confines of China, diminished to mere shrubs; while on the high lands and N. slopes of the same frontier the only wood consists of some wretched thorny brambles. (Lord Macartney, ii. 200.) This remarkable absence of timber throughout so great an extent of country is owing probably (even more than to the nature of the soil) to violent and cold tornadoes, which are extremely frequent, especially during the summer. (Carpin, cap. xvi. art. 1.) In the N. parts of Mongolia the timber approaches in character to that of S. Siberia, but is still very inferior both in kind and quantity. (Timkouski, i. 44, ii. 290, &c.) Considering the vast number of beasts that traverse these plains (see Zoology), there must be, notwithstanding the extensive deserts, a great variety of grazing herbs and grasses; but except in the E. (Timkouski, ii. 229) agriculture is not practised, and the vegetable food of man unknown. The natives live exclusively on flesh and milk (Carpin, c. xxvi. art. 4; Rubruquis, cap. v.; M. Paulo, liv. i. cap. 57, &c.); and when questioned as to why they so totally neglect the earth, their reply is, that 'God made herbs for beasts, but the flesh of beasts for men.' (Du Halde, iv. 32.) Timkouski saw, in the N. parts of this region, red currants, peaches, hemp, and flax, all growing wild (ii. 290). There is also here a very remarkable fungus, called, from its resemblance to the animal, the Tartar lamb; and there can be little doubt but that the flowering and aromatic plants of this region are numerous and peculiar.

The E. slope of the table-land, comprising the basin of the Saghalien (or Amoor) and other great rivers which flow into the Pacific Ocean, forms the third great kingdom of Asiatic botany; and is, in every respect, strongly contrasted with its immediate neighbour. Here are immense forests; so extensive that it required nine days to traverse one of them, and so thick that it was necessary to fell several trees in order to take an observation of the sun's meridian. (Du Halde, iv. 7.) The cold is very severe to as low a lat. as 48°; and consequently the trees are of the kind usually met with in the more N. parallels of Europe. Of fruits, this district possesses apples, pears, nuts, chest-nuts, and filberts, all in great abundance; and of grain, wheat, oats, and millet are produced, together with a peculiar species, unknown in Europe, called *mai-se-mi*, partaking of the nature of both wheat and rice. Rice itself is grown, though in no great quantities; and, in fact, from the little that is known of this great region, it would appear that there is no large district of the earth better adapted for the residence of an agricultural population. Its capabilities are, however, wholly neglected by the Chinese government; while the natives of the soil (the Manchoes), though they

do not, like the great majority of the Mongols, utterly neglect the pursuits of husbandry, yet, in general, they may be described as a race of hunters, resembling strongly in habits and manners the aboriginal inhabitants of America. The cotton shrub grows here; but owing to the low temperature (the lat. being remembered) it does not thrive well. Esculent roots of very many kinds, are however, plentiful; and the medicinal herb ginseng is found nowhere but in this country and N. America. The Chinese believe this plant to be an infallible remedy for every disease, mental and bodily; and it is sought amid incredible fatigues and dangers by parties who are marshalled under officers, almost in the manner of an army. Some parts of the soil are swampy, and full of wild desert marshes; but sand is almost unknown, and, in general, the ground bears a strong resemblance to the best parts of N. Europe in the thickness and vivid colouring of its grasses, and the variety of its flowering plants. It is a curious fact that the roses, lilies, and other flowers of this part of Asia excel greatly those of Europe in beauty, but are very deficient in point of odour. The pines and oaks that clothe the mountains are of great size, but diminish rapidly as they approach the sea. (Du Halde, iv. 5-7, &c.; La Perouse, iii. 16, 17, 21, 75, &c.; Muller, Bot. Dict. iii. art. *Panax*.)

The three foregoing districts of Asia, though very extensive, are each remarkably uniform in their productions and general physical appearance. The variations in different parts are chiefly of degree, not of kind; and whatever peculiarity of vegetation marks any one part of any region, appears to mark the whole, and to distinguish it from both its adjoining neighbours. The case is different on the W. slope of the great table-land, the fourth botanical kingdom of Asia. This region is uniform as far W. as the deep depression of the Caspian Sea, but beyond this all becomes changed: the face of the country, the direction of the rivers, the natural productions, everything constituting the physical geography of a region, puts on a new appearance; and the Caspian seems placed by the hand of nature on the precise spot where it could most decidedly mark the limits of two large districts possessing few things in common. The great plain of Tartary (the only true W. slope from the table-land) is very productive in its E. parts; that is, in the countries of Kokhan, Badakhan, and Bokhara. The description of Ebn Haukel, an Arab geographer, is particularly vivid. 'The cultivated plains of Bokhara,' he says, 'extend above 13 farsang by 12 farsang; and the Soghd (the *Sogdiana* of ancient geography) is for eight days' journey full of gardens and orchards: corn fields and running streams, reservoirs and fountains, both on the right hand and the left.' (Ouseley's Trans., 237.) Corn of all kinds and rice are here very prolific; so much so, that, according to Hadgi Khalfa, a field of one or two *dunen* (acres) is amply sufficient to support a family. (D'Herbelot, 207.) Of fruit, grapes, melons, pears, apples, figs, &c., grow to such perfection, and in such abundance, that they are exported to Persia, and even to the more fertile region of Hindostan. The pasture grounds are also extremely luxuriant; but it may be gathered that timber is scarce, and the whole country deteriorates as it recedes W. and N. The soil of the Kirghiz country N. of the Sihon is chiefly of a saline character; but the pasturage must still be good, since immense numbers of animals, wild and domestic, are fed in the extensive steppes. Trees of the hardier kinds, larch, beech, and fir, appear also on the banks of the rivers. (Pallas, i. 618, 630, &c.) In

journeying W. the country for a time exhibits the extremes of richness and desolation (Burnes, i. 333); the former, however, gradually diminishing till the whole soil becomes a wretched unproductive sand, except in the immediate neighbourhood of rivers. (Burnes, ii. 1, 10, 16, 46, &c.) There is not, perhaps, in the world a more sterile district than that between the Aral and Caspian Seas. In the countries W. of the latter, a strange contrast is presented: on the N. slopes of the Caucasus, indeed, a constantly deteriorating country terminates at last in the wretched waste of Astrakhan; but even here corn fields and rich pasture grounds dispute the soil with the tamarisk, the camel's thorn, the absynthium, and other desert plants: while on the E., W., and S., declivities of the same mountains, magnificent forests of cedars, cypresses, savins, red junipers, beeches, oaks, &c., flourish in great luxuriance; while of fruit, the soil boasts the almond, fig, peach, quince, apricot, pear, date, jujube, olive; and of flowers, the rhododendron, Christ's thorn, ponticum, asolia pontica, laurel, seringa, jessamine, lily, Caucasian rose, and a whole host of others. The bread corns and the most useful roots are also produced in most parts of this mountainous country. (Guldenstadt, Com. Petrop. xx. 49, 485, 488, &c.; Pallas, ditto, 1779, ii. 274.) With regard to Asia Minor, Mesopotamia, and Syria, it is impossible to give within any reasonable limits the slightest sketch of their numerous productions; though the two last be partially desert, and their deserts be of the most sterile character, yet their fertile spots are scarcely inferior to any on the earth's surface. Rice and barley yield a return of a hundred-fold; the cotton shrub flourishes; and indigo, sugar, and tobacco are among the useful productions. Lemons, oranges, tamarinds, apricots, dates, and grapes, are a very few among the fruits of these regions; which produce in great abundance also nearly all the esculent roots, pulses, and grains. Wood is extremely scarce in Mesopotamia (the date palm is the only tree known there); but in Syria the majestic cedar of Lebanon maintains the fame which it acquired in the days of Jewish greatness; while majestic oaks, cypresses, planes, sycamores, savins, olives, mulberry trees, pistachios, junipers, and fig trees clothe the sides of the Anatolian and Syrian mountains, and spread their arms over plains where flourish almost every species of flowering roots and shrubs. Among the oaks of Asia Minor is the *Quercus infectoria*, the gall of which is an important article in dyeing. The pistachio is rarely found beyond the neighbourhood of Aleppo. (Volney, ii. *passim*; Niebuhr, Voy. en Ar. ii. 250, &c.; Olivier, iv. 26. 184, 197, &c.; Leake, *passim*, also in Walpole, ii. 202, &c.; Belon, 75, 166, 166, &c.)

The fifth kingdom of Asiatic botany remains to be noticed. It comprises the S. slope of the central plateau, and contains the three great peninsulas of Arabia, India, and Malaya, together with the extensive territory of China proper, and the S. shore of Persia and Beloochistan. The W. part of this region is badly watered (see ARABIA, LARISTAN, BELOOCHISTAN); and consequently consists chiefly of deserts, or of pasture grounds depending on rain for their fertility. The vicinities of the few and small rivers, are, however, even here crowded with vegetation; and from the Indus eastward (where the hydrography is on a scale of the most profuse luxuriance) a district is comprised unequalled for the abundance and variety of its productions by any other part of the world. Nearly every plant of the E. continent is indigenous, or can be raised in some part of S. Asia. The following is an imperfect list of the trees alone; and these are not,

in general, confined to particular localities, but, in most cases, spread over the whole region :—

FOREST TREES.

Bamboo	Fir	Oak	Pouina
Horch	Larch	Palm	Poplar
Chestnut	Mangrove	Pine	Teak
Cypress	Myrtle	Plantain	Willow

HARD WOODS.

Aloes	Ebony	Lingoa	Sandal-wood
Eagle-wood	Iron-wood	Rose-wood	

FRUITS.

Almond	Citron	Jamboo	Peach
Apple	Cocoa	Lemon	Pear
Apricot	Coffee	Lime	Plum
Banana	Date	Mangostein	Pomegranate
Banyan	Dunon	Mulberry	Shaddock
Betel	Fig	Olive	Tamarind
Bignonia	Guana	Orange	Vine
Broad Fruit	Guava	Pandanus	Walnut
Cashew			

SPICE TREES.

Campbor	Cinnamon	Mace
Caesia	Clove	Nutmeg

Many of these trees yield gums, resins, odoriferous blossoms, or are otherwise useful beyond the generality of their class. There are also several species which cannot be conveniently classed under either of the four foregoing heads; as the champaka, malar, and tanjang, flower-bearing trees; the touki, from the bark of which the Asiatics manufacture a paper; the faang, which yields a rich red dye; the tallow tree, which exudes an unctuous matter, whence its name; the upas, the most deadly of vegetable poisons; the cotton tree, and above all the tea plant.

The other kinds of vegetation are not less abundant. Grain of every kind, including 27 species of rice, and some varieties of dhourrah and barley, scarcely known in other regions, is grown with little labour to the cultivator, the richness of the earth in many places precluding the necessity and even the possibility of using manure, though two crops are produced annually. The leguminous plants now common in Europe came, in most instances, originally from S. Asia; but, in addition to the peas, beans, lentils, &c., there are here a whole host which have never found their way W., as the lotus, moong, murhus, tanna, tour, toll, &c. (See INDIA, CHINA, &c.) A root called katchill supplies the place of the American potato; but this last root, as well as the yam, is abundantly cultivated, especially in China and the E. peninsula of India. This is also the native home of the arrow-root, galanga, jalap, sarsaparilla, datura, anise, opium, and other drugs. The fields abound in flax, hemp, tobacco (the latter is a native plant, according to Lord Macartney, ii. 174), together with flowers of every kind and dye, though it is remarkable that those of powerful scent are confined to the N. parts. The fine rose that yields the attar is rarely found S. of 26°, and is chiefly limited to the plains of the Upper Ganges and Punjab. (See LUCKNOW and CASHMERE.) Dye plants are very numerous; the sugar cane grows luxuriantly; and among the numerous strongly odoriferous gums, attempts have been made to identify the spikenard, bdellium, malabathrum, sepachra, and other precious ointments of the ancients, but without much success. (Du Halde, i. 14, &c., ii. 64, &c., Lord Macartney, ii. 43, 165, &c.; Crawford, Emb. to Siam, passim; Russell's Int. to Roxburgh's Plants of Coromandel, 1—66; Finlayson's Mission to Siam, passim; Asiatic Researches, and Journal of Asiat. Soc. Beng. passim.)

With regard to the number of species in each order of plants, it is to be remarked that Humboldt gives the Cryptogamæ as 1-15th of the whole vegetation for equinoxial plains; as 1-5th for equinoxial mountains; as $\frac{1}{2}$ (on an average) for the regions of the temperate zone; and as the *sols* vegetation of mountains in polar lands. The same authority gives the Monocotyledons (of the old continent) as 1-5th for the torrid, 1-4th for the temperate, and 1-3rd (on an average) for the frigid zone. (Dict. des Sci. Nat., xviii. 436.) De Candolle, following Persoon, makes the proportions somewhat different; namely (for the whole world), Cryp. 1-6th, Monoc. 1-6th, Dico. 4-6ths, of the whole vegetation. (Idem, 395.) From these data, and the various authorities cited throughout this article, the following approximative Table of Asiatic Botany is deduced. But it is necessary to observe that the absolute number of known species is very uncertain. In 1806, there were but 27,000; Brown's splendid addition of Australian plants increased the amount by nearly 1-6th, and since that time discovery has been rapidly at work. It may, however, be doubted whether the very love of science has not betrayed some of its followers into too nice distinctions. De Candolle thinks that Persoon's 27,000 species should be increased to 56,000, and that the number of plants yet unknown or unclassified would swell the list to 110,000 or 120,000. (Dict. Sci. Nat., xviii. 420.) Lindley is more moderate; he makes the gross number of species 86,000. (Intro. to Botany, 504.) That assigned in the table (44,000), is from Humboldt's data.

Orders	Whole No. of known species	Whole No. of known Asiatic species	No. of species common to Asia and other regions	No. of species peculiar to Asia
Cryptogamous	6,000	1,837	900	337
Monocotyledonous	6,909	1,950	875	1,075
Dicotyledonous	31,091	4,050	2,169	1,881
Total	44,000	7,837	3,944	3,893

III. ZOOLOGY OF ASIA.—Asia is the native home of all the more useful species of animals; with the exception, perhaps, of the sheep. From some district or other of this continent came, originally, the ox, horse, camel, goat, ass, together with the whole race of domestic poultry; except the turkey, which is a denizen of the New Continent. Utility may, indeed, be regarded as the leading characteristic of Asiatic Zoology; for though its carnivorous mammalia be numerous as compared with the whole number of species, the majority are not merely harmless to man, but in a considerable degree useful to him, consisting of several kinds of seals, and the fur-bearing quadrupeds of the north. Birds of prey are remarkably scarce, when the great extent of mountain land is taken into consideration; and of those existences which have little but peculiar or anomalous formation to distinguish them Asia is all but destitute. The truth of these remarks will be at once evident from the following Tables, constructed, with as much care as possible, from Cuvier's Règne Animal; Shaw's Zoology; Pennant's Hist. of Quad., Genera of Birds, Arctic Zoology, and View of Hindoostan; Du Halde's China; La Perouse's Voyages; Georgi's Geog., Phys. and Nat., vi. and vii.; Pallas's Spicilegia Zoologica, Travels, &c.; Gmelin's Reise der Sibierin, Reise der Russland, &c., &c.

MAMMALIA.

Orders	Whole No. of known species	Whole No. of Asiatic species	No. of species common to Asia and other regions	No. of species peculiar to Asia
Quadrumanæ	155	44	11	33
Cheiroptera	136	60	15	45
Insectivora	27	9	5	4
Carnivora	177	77	42	35
Marsupialia	59	2	0	2
Rodentia	192	78	20	53
Edentata	21	1	0	1
Pachydermata	24	11	4	7
Ruminantia	142	57	16	41
Cetacea	27	14	11	3
Total	960	348	124	224

AVES (Birds).

Orders	Whole No. of known species	Whole No. of known Asiatic species	Species common to Asia and other regions	Species peculiar to Asia
Accipitres	251	49	13	36
Dentirostres	1,273	247	77	170
Fissirostres	127	30	14	16
Conirostres	440	87	42	45
Tenulirostres	311	49	17	32
Syndactyles	116	53	18	35
Scansores	481	101	25	76
Gallinæ	344	136	20	116
Grallæ	331	107	49	58
Palmipedes	289	78	41	37
Total	3,963	937	316	621

REPTILIA.

Orders	Whole No. of known genera	Whole No. of known Asiatic genera	Genera common to Asia and other regions	Genera peculiar to Asia
Chelonæ	60	16	9	7
Sauria	117	38	12	26
Ophidians	93	20	4	16
Batrachians	35	2?	2?	0?
Total	305	76	27	49

The Reptilia are divided into *genera*, not *species*, according to the text of Cuvier. The list of species is sufficiently long in some other authors; but they abound in repetitions of the same species under different names and in transpositions of synonyms (ix. 263). Similar considerations forbid the attempt to classify the Pisces, Insecta, or Mollusca, a tabular arrangement of which classes would not, indeed, possess much interest.

A glance at these tables will exhibit, at one view, the zoological riches of Asia. Of the class Mammalia, more than a third of the whole number of species are found upon its soil, and nearly a fourth (accurately 7-80ths) are peculiar to it. In the more important species, these proportions are considerably increased. The Asiatic Ruminantia are nearly two-fifths of the whole; those peculiar to the soil, nearly two-sevenths. The Pachydermata are in a still higher ratio; the Rodentia and Carnivora, which two orders include the more useful fur-bearing animals, in nearly the same. The strong-winged Cheiroptera are indeed almost equally numerous; but the Quadrumanæ are reduced to little more than a fourth of the whole, and the anomalous orders of Marsupialia and Edentata can scarcely be said to have a place

in Asiatic mammalogy. But it is not either the actual or relative amount of animal life that constitutes the chief advantage of Asia in this respect; among its numerous species of the more important orders it reckons the most important of the species themselves. Of these, the first in rank, with reference to its locality, is, perhaps, the camel. Other animals are more generally useful to man; but without this patient and intelligent servant, a large, perhaps the largest, part of Asia would be no home for the human race. Expressly formed for existence in a desert, it has been domesticated for a period long antecedent to all history, and for countless generations has been the means of connecting districts otherwise effectually separated, and has formed the principal wealth of their inhabitants. The camel has this peculiarity to distinguish it from other domestic animals, that it does not follow its master in his wanderings. The other tribes, with one exception (the rein deer), have become denizens of every corner of the earth, however remote from their native home. It seems, indeed, a law, that the lower animals which herd with man shall follow him, with these two exceptions; but these, though fully as subservient and as useful as any others, have never become naturalised beyond the limits where they were first found. The attempts to establish the camel in Greece, Italy, Jamaica, and Barbadoes have been signal and decisive failures. Yet the animal can support as great a range of climate as most others, being found in N. Tartary, as far as the shores of Lake Baikal (from 50° to 55° N. lat.), where the average temperature is scarcely, if at all, higher than that of Lapland, and where the winter's cold is frightfully severe, as well as under the scorching sun of intertropical countries. It is true, in these N. lands, its size becomes diminutive; but it preserves its hardy character, multiplies abundantly, and forms the wealth of the Burat and Mongol not less than of the Arab and Syrian. (Marco Paulo, ii. 159; Pallas's Spic. Zool., xi. 4; Du Halde, iii. 483; Pennant's Hist. Quad., 120; Cuv. iv. 8, &c.)

Of the ox tribe, the most useful species are Asiatic, as the common ox (*Bos Taurus* of Linnaeus), the aurochs, the buffalo, and the yak. Their varieties are almost numberless; but those enumerated are considered by Cuvier (iv. 28-31) as the only distinct species, with the exception of those not found in Asia, such as the American bison, the Cape buffalo of Africa, and the musk ox. The most striking distinction between the Asiatic and non-Asiatic species of this genus is, that the former only are domesticated, or appear capable of domestication. In all other respects they exhibit a general resemblance, amounting almost to identity; their gregarious habits, their food, their internal formation, all are extremely similar; nay, they breed promiscuously, and the issue of a cross are prolific: but while the Asiatic species have been domesticated as long as society has existed, the others remain to this day as untamed as when they first took possession of their native woods. A natural result of this distinction has been the distribution of the common ox from the Arctic circle to New Zealand, and round the whole world in longitude; while the American and African species appear incapable of multiplying beyond their original limits. The buffaloes, or humped, are less dispersed than the straight-backed species, and appear to be less capable of supporting a low temperature; but wherever the climate is at all adapted to them, they, like the others, are found to be naturalised, and thus they have spread from India (apparently their native home) over N. Africa and S. Europe; nor can there exist any

reasonable doubt but that they would equally thrive in Australia, Polynesia, and Temperate America, were the experiment tried.

The auroch and the yaik (or grunting ox) are only partially reclaimed, if, indeed, the former do not still exist in all his original wildness; but Cuvier seems to be mistaken when he limits his locality to the Carpathians and Caucasus. Tartarian travellers describe the breed as existing in a state of semi-domestication on the plateau of Mongolia, and breeding with the domestic cow, thereby producing a cross much stronger and more fit for labour than the common ox. (Marco Paulo, ch. lxiii. p. 52; Rubruquis, ch. xviii. p. 57.) This creature is, next to the rhinoceros, the largest of land animals. It has been by some naturalists supposed to be the original specimen of the domestic variety; but Cuvier has pointed out some osteological differences which plainly refer it to a different species. It has also the grunting voice of the yaik, which might by possibility be regarded as a small variety of the aurochs, were it not for the tail, which in the yaik resembles that of the horse, and is the same which composes the standards of the Turkish officers. The number of cattle fed by the wandering Tartar nation seems almost incredible: every fertile plain, and some plains that are almost sterile, are covered by them; and some one or other of the species thrive upon the sides and even upon the summits of the wintry mountains of Tibet and Daouria. The domestic ox was unknown in Kamtschatka till introduced there by the Russians; and the musk ox appears to be unknown in Arctic Asia, though remains of the creature have been occasionally found, especially a skull (not fossil), near the mouth of the Obi, in the latter end of the last century. (Pallas's Nov. Com. Pet. xvii. 6, 1; Gmelin's N. C. P. v. 331, &c.; Du Halde, iv. passim, &c.; Timkouski, ii. 289, &c.; Pennant's Hist. Quad., i. 15-27; Cuvier, iv. 28-31.) Nor are sheep less plentiful in Asia than cattle, though it may perhaps be doubted whether this useful creature be not one of the very few treasures which belong originally to Europe; the derivation of the various woolly species is doubtful between the Mouflon of Italy and the Argali of Siberia. (Cuvier, iv. 27.) There is no race of animals, except the dog, so subject to vary; and amid the multitude of breeds now distributed all over the world, it is probably useless to attempt to identify the original. The Argali, found in Siberia and all the mountainous regions of Asia, is like the European varieties, distinguished by its short tail. Like other Arctic animals, the Argali, also, changes its covering, which is rather fur than wool in the winter. In India the sheep are long-tailed; and in Persia, Tartary, China, and Syria the tail is not only elongated, but loaded with a mass of fat. The power which this creature possesses to accommodate itself to climate seems almost unlimited: in the hot plains of Asia its covering becomes coarse and scanty; while in the frozen regions of Tibet its thick wool has an under lining of the finest kind, forming an important article in manufactures and commerce. (Pallas's Spic. Zool. xi. 3-31, 58-82; Gmelin's Reise durch Kussland, iii. 486, et seq.; Reise durch Siberien, i. 168 et seq.; Du Halde, iv. pass.; Pennant, 38-46; Cuvier, iv. 25-28.) There can be little doubt but that the *Capra Epyagrus* of Gmelin, the *Iber Alpinus Sibericorum* of Pallas, is the original stock whence all the varieties of the goat tribe are derived. It herds in the mountains of Taurus, Tartary, Persia, China, E. Siberia, and Kamtschatka. It inhabits indifferently all climates, but assumes a very different appearance under different circumstances. The Angora goat of Cappadocia, the Tibet

goat the Bousquetin or Ibex, and the domestic species, *Capra Hircus*, are the most noted varieties. The animal is in a very high degree serviceable to man, especially to the nomadic races of its native country; its coat furnishing an important article of manufacture, its skin the leather of which the wanderer makes his water-bottles and packing-cases; its milk is salutary in many complaints; and, when young, it affords a nutritious and agreeable food. (Pallas's Spic. Zool., xi. 31-57; Pennant's Hist. Quad., 49-56; Cuvier, iv. 23-25.) The rein deer is common to the arctic regions of Asia, Europe, and America. It runs wild in the snowy wastes of Siberia and Kamtschatka, but is likewise domesticated, and supplies to the tenants of these dreary regions the place of the horse, cow, sheep, goat, and camel. It is not, however, so extensively domesticated in N. Asia as in Lapland. (Hist. Kamtschatka, 228; Bell's Travels, i. 213; Cuvier, iv. 9.) The elk is also common to Asia, Europe, and America; it inhabits the cold regions of Siberia and Mongolia, where, though undomesticated, it is highly useful as an animal of chase, the flesh furnishing a good species of food, the tongue especially being esteemed a great delicacy; and the skin making a buff leather, capable, according to good authority, of turning a musket ball. (Pennant's Hist. Quad., i. 93-98; Cuvier, iv. 9.)

Of other ruminants, Asia has the most, apparently throughout its whole extent from Siberia to Ceylon (N. C. Pet., iv. 393; Pallas's Spic. Zool., xiii. 3-45; Bell's Travels, i. 249, ii. 88; Du Halde, i. 63, 324; Hamilton's Voy. E. Ind., i. 261), together with a great variety of deers and antelopes; it is, however, among these, with the llamas of America and the giraffe of Africa, unquestionably the least useful of the order, that the only Ruminantia wanting in Asia will be found. (Pallas's Spic. Zool., i. 3-44, xii. 3-71; Cuvier, iv. 5, 8-23.)

In its Pachydermatous tribes Asia exhibits the same superiority over other regions; the elephant, horse, ass, and hog have their home in its forests and plains; while the animals of this order absent from its soil are the hippopotamus, and the tapir, peccary, phacoe, damans, with some other inferior species, and such as are useless to man. The elephant rarely propagates in a domestic state; but it is an error to suppose that this never takes place: the tame females sometimes escape to the woods in breeding-time, and, after coupling with the wild males, return to the herd, or are brought back, and produce their young at the end of nine months. The locality of the Asiatic elephant is limited: it does not appear to be found W. of India or N. of the Himalaya mountains; but in India, Malaya, Birmah, China, and the islands of the Eastern Archipelago, it is numerous both in its wild and domesticated state; and, besides its utility as a beast of burden, and the value of its tusks as an article of commerce, it is held in great regard for many occult medicinal properties supposed to exist in its flesh, eyes, bones, &c. (Du Halde, iii. 480; Crawford's Em. Si., 429, 479; Pennant's Hist. Quad., 150-161; Cuvier, iii. 326.) The horse and ass are both indigenous to Asia, and originally peculiar to that continent. Species of the same genus are indeed found in Africa, but, as in other similar cases, they seem incapable of domestication; while the Asiatic species, especially the Arabian variety, have supplied the whole world with two of the most useful quadrupeds that wait on man. The Dziggetai, a creature intermediate in size between the horse and ass, still runs wild in the Asiatic deserts; like his congeners, he is gregarious, and, like them, too, his numbers seem almost unlimited; a similar remark will apply to the Koulan or wild ass. (Du Halde, ii. 17, 60, iv.

30 et passim; Bell, i. 225; Pennant, 1-13; Cuvier, iii. 840-848.) The hog is so spread over the world that it is difficult to assign its original locality; the fact that the species *now* peculiar are all African and undomesticated, seems, however, to imply that the original stock of the domestic swine is Asiatic; the more especially as the creature is dispersed over every part of the continent from its S. extremity to the N. shores of Lake Baikal in 55° N. lat. (Bell's Travels, i. 279; Pallas's Spic. Zool., ii. 8; Crawford's Embassy to Siam, 479; Cuvier, 380-382.) Two species of the rhinoceros are peculiar to Asia and the Indian islands, the latter distinguished by a double horn like the *Rh. Africanus*. (Du Halde, i. 239; Crawford, 429, 478; Pennant's Hist. Quad., i. 138; Cuvier, iii. 386.) Tropical Asia possesses most of the fiercer Carnivora: lions, tigers, leopards, black panthers, ounces, and tiger cats, of the cat genus; wolves, hyenas, and jackals, of the dog tribe. They do not, however, all exist in equal numbers, nor equally in every part. The lion is becoming very rare in Asia; he is now found only in the deserts of Mesopotamia, Persia, and India, and perhaps in some parts of China. He does not appear to be heard of in Siam or Cochin China; to which districts the wolf, hyena, and jackal, as far as is yet known, are also strangers. (Crawford's Em. Si., 428.) The manul, lynx, and wild cat are most numerous in temperate Asia; the first extending, however, almost to the arctic regions, the second stretching into both the frigid and torrid zones; but the last (scarcely ever met with beyond the Caucasian mountains) appears originally to have been European. The dog and fox, in all their varieties, are common to all the continent; the former, in some parts (as Kamtschatka), supplying the place of a beast of burden, in others being used as an article of food. The Angora and Persian cat are celebrated for the fineness of their fur, as is also the blue cat of Siberia; though the last, if not the two former, seem to have been derived, as well as the domestic cat, from Europe. Formidable as are some of these creatures, they constitute a considerable portion of the wealth of the countries which they inhabit; their skins form an important article of commerce; and what is remarkable, the *bones* of the tiger are supposed, like those of the elephant, to possess medicinal qualities, and are highly valued accordingly. (Crawford's Em. Si., 428.) The smaller Carnivora are also found in great abundance, as the different species of martens, among which the ermine and sable stand pre-eminent for their fur; the Asiatic civets, which possess the odour, though not the glandular excretion, of the African species; and the mangousti or ichneumon, which attacks and destroys the most dangerous serpents: bears, badgers, gluttons, sea otters, morses, walruses, seals, complete the list of Asiatic Carnivora. (Bell, i. 100, ii. 81 et pass.; Du Halde, pass.; Pallas's Spic. Zool., xiv. 29 et seq.; Crawford's Em. Si., 428, 478; Pennant's View of Hindoostan, i. 193-197 et pass.; Hist. Quad., 219-300; Cuvier, ii. 23-61.) The Insectivora and Rodentia consist, the first, of hedgehogs, shrewmice, and moles in their various species; the latter, of the more important animals, beavers, hares, rabbits, lemmings, marmots, squirrels, dormice, porcupines, jerboas, rats, mice, &c. Of these, the Asiatic species are very numerous, and they form, with the smaller Carnivora, the principal wealth of Siberia, since among them are found many that afford some of the richest furs, especially in the winter, when the covering of the creatures becomes thicker in texture, finer in quality, and generally superior in colour. Animals of this order do not appear to be numerous in S. Asia. Crawford re-

marks that the hare and rabbit are unknown in the lower parts of Siam. The porcupines, on the other hand, are not found in the N. regions; and the jerboas seem peculiar to the wide open plains. (Gmelin's Reise durch Sib., passim; Crawford's Em. Si., 428, 478; Cuvier, iii. 63-95; Pennant's Hist. Quad., 868-469; Pallas's Stin., pass.; Com. Pet., pass.) Of the Quadrumana the principal Asiatic species are the orang outang and the gibbons; the smaller apes and monkeys are numerous in the S., especially in India, China, and the islands. As a general fact, the Asiatic monkeys are inferior in structure and intelligence to the African, but much superior to those of America. (Cuvier, i. 207-220.) The Cheiroptera are numerous all over the world; they seem, however, to abound more in the Asiatic islands than on the continent: some of them, as the Roussette of the Sunda and Molucca isles, are accounted delicate food; others, as the Timor bat, rather large and destructive; but the more powerful and mischievous species of this order appear to be American, and strangers to the soil of Asia. (Pallas's Spic. Zool., iii. 3-35; Pennant's Hist. Quad., 548-563; Cuvier, ii. 4-15.) The Marsupialia of this continent consist of but two species of Phalangera, *Phal. Rufus* and *Phal. Chrysorrhoea*. (Buffon, xiii. 10; Temminck, 12.) They are peculiar to the Moluccas, Java, and Celebes, exhibiting thus, at the extremity of Asia, the first indication of the anomalous Mammalogy of Australia. The single Edentata is the short-tailed Manis, which, like the last order, is peculiar to the Indian islands, except some few instances found in Bengal. (Pennant, 505.) Marsden (Sumatra, p. 18) seems to imply that the African long-tailed Manis is sometimes found in that island. Lastly, the Cetacea consists of dolphins, manati, porpoises, sea unicorns, and whales, of which some one or other species is found on all the coasts of Asia. (Pennant, 536-545; Cuvier, iv. 430-443.)

The Ornithology of Asia is less rich than its Mammalogy; the former containing considerably less than a fourth of all the known species, while the latter possesses very much more than one-third. The continent of Asia, however, maintains the peculiar character of utility in its possessions; for of the Galline unquestionably the most useful order to man, the number of its species is between a third and a half of the whole, and fully a third of the whole is peculiar to its soil. Among these species are reckoned the original stocks of all the domestic poultry, except the turkey, which is American; the pheasants, partridges, peacocks, and whole flights of pigeons. The species in which it is most deficient are among the grouse, quails, and pintados; but there is scarcely a genus of this useful order of which Asia is wholly destitute. Of other birds, the order Grallæ furnishes the ostrich, crane, heron, stork, bittern, plover, spoonbill, ibis, many of which are highly useful in tropical climates as destroyers of serpents and other dangerous reptiles: the Scansores consist of those climbing birds, parrots, paroquets, woodpeckers, and macaws, the beautiful plumage of which add so much to the splendour of equinoctial forests; and the Syndactyles (the smaller order of bright plumages), of bee-eaters, kingfishers, and hornbills; which last, from their greater size and peculiar habits, have far less resemblance to the other genera of the order than they have to each other. In all these orders, it will be observed that Asia is relatively rich, except with regard to the Scansores, which, having little but their beauty to recommend them, are the least useful of any yet enumerated. In the others the proportion becomes still lower; and though among the palmipeds,

petrels, albatrosses, pelicans, gulls, geese, ducks, and swans, Asia has some which the natives have turned to account, as the great cormorant, taught by the Chinese to fish: yet the great home of this order of birds lies in other quarters: America, Africa, Australia, and even Europe. Of birds of prey (Accipitres) Asia has its eagles, vultures, falcons, owls, and hawks; but here, again, the number of species is comparatively small, though in some cases the individuals of a species are very numerous: and in the four remaining orders, consisting of all the tribes of granivorous and insectivorous birds, shrikes, pies, thrushes, crows, swallows, goat-suckers, birds of Paradise, and the various songsters, the Asiatic woods are very poor; their chief tenants, of these orders, being generally such as are distinguished for beauty of plumage. Song birds are very scarce. (Pallas's Spic. Zool., iv., v., vi.; Gmelin, i. 48-76, 152; ii. 163-193; iii. 85-106, 249-251, 864, 878, &c.; Pennant's Gen. Birds, pass.; Crawford's Em. Sl., 452-480; Du Halde, pass.; Cuvier, vi.-viii.)

In Reptiles, as in birds, Asia is less abundant than some other regions. Of the Chelonia it has several fine species of edible turtle, and others that are chiefly valuable for their shell. Lizards are very numerous in individuals, though not in genera, and probably not in species; among these, two or three kinds of alligators are very destructive in the rivers of India. Of serpents, the most dangerous is the Indian Python (improperly confounded with the boa constrictor); but there are many others highly venomous, and some which are extremely beautiful and quite harmless. Frogs and toads abound in all marshy places, but it seems doubtful whether they be of many different kinds. (Pallas's Spic. Zool., vii.; Gmelin, iii. 58, &c.; Pennant's View of Hindostan, pass.; Du Halde, passim; Cuvier, ix.)

The seas and rivers appear to possess every known kind of fish, and some that are peculiar (Pallas, vii. viii.); and the insect tribe are numerous throughout the whole continent; the ravages of some, as the locust, in Arabia, Syria, and Persia, being far more dreaded than the attacks of carnivorous animals. (Pallas, ix. x.; Cuvier, ix. xiv. xv.)

IV. RACES OF PEOPLE AND LANGUAGES.—Not only the majority of the human race in number, but also the greatest variety in the species, is found within the limits of Asia. The subject, as well from extent, nature, and, in many respects, deficiency of information, is one of great difficulty; but we shall, nevertheless, offer some observations upon it, founded on the physical form, intellectual character, and genius of the language of the races. Some of these families or races consist of many millions, while others embrace but a few thousands, a circumstance which has naturally arisen from the favourable or unfavourable position in which they have been located on their original distribution, and perhaps also from an intrinsic difference in the capacity of the races themselves,—causes which have multiplied some into numerous, powerful, and civilised nations, and kept others in the condition of petty and rude tribes. We begin our classification from the west.

The first family, which may be called the *Caucasians*, comprises all the aboriginal inhabitants of the mountainous region lying between the Black Sea and the Caspian from about 38° to 42° of N. lat. It includes the mountaineers of the valleys of the Caucasus, such as the Abasians, Ossetes or Iron, Lezghians, and Kisti; and, in the more level country, or wider valleys lying to the south of the Caucasus, the Georgians, Mingrelians, and Armenians. In personal form this

family may be described as European, but in mind Asiatic. The face is of an oval form; the forehead, high and expanded; the nose elevated, with a slight convexity; the mouth small; the lips moderate in size, and the chin full and round. The complexion is fair, without, however, the clearness of the European; the eyes are generally dark, and the hair of the head rarely of any other colour than black or brown: and, indeed, it may here be once for all observed, that the great variety in the colour of this tegument, with which we are familiar, is confined to Europe,—black being nearly universal in every other part of the world. The hair on other parts of the body, with the Caucasian family, is abundant; the stature is nearly equal to that of the European, and the form of the whole person is symmetrical and handsome. The personal beauty of this race has induced Blumenbach and some other eminent naturalists, to assume its form as the type of the European, or first of the five great varieties into which they have, fancifully enough, divided the whole of mankind. They have even gone the length of fancying that the entire European family sprung from the mountaineers of the Caucasus; an hypothesis for which it is almost unnecessary to say that there is not a tittle of historical, philological, or any other evidence. Notwithstanding undoubted advantages of physical form, no nation of this family has ever made any eminent advance in civilisation. Many of them, with a country not unlike Switzerland, though with a better soil and climate, are, at the present day, not more advanced in civilisation than the Swiss or Germans as described by Cæsar near 2,000 years ago. The Armenians alone of the whole family have made a considerable though far from a distinguished progress. About five centuries before the Christian era, they constituted an extensive society, and even exercised some influence in the political events of Western Asia: they alone, of all the nations and tribes composing the Caucasian family, possess a national literature; but even their invention of alphabetic writing dates only from A.D. 406, for previously to that time they used the characters of the Greeks and Persians: always acting a secondary and subordinate part, they have been successively subdued by Persians, Greeks, Romans, Arabs, Turks, and Russians. Language, it should here be observed, considered as the test of unity of race, must be viewed, as respects its genius and the general character of its formation, and not by the identity or dissimilarity of individual words, which, through the accidents of conquest, settlement, religion, and commerce, often find their way even into languages of very opposite genius. As happens in rude and early stages of society, in every part of the world without exception, the number of languages spoken by the nations of the *Caucasian* family is very great. The tribes inhabiting the valleys and mountains of the Caucasus are said to speak seven distinct languages, besides many dialects; a number, however, which falls far short of those spoken within a similar extent of territory in many parts of America, as well as of the islands of the Indian Ocean. The only language of the Caucasian family, of which Europeans have any critical knowledge, is the Armenian, of which we possess dictionaries and grammars: those who have examined it consider it as quite peculiar and distinct from all other known tongues: it abounds in rough consonants: its structure is exceedingly complex: it has an article at the end of nouns: its nouns and adjectives have each ten inflections in the singular and as many in the plural, and the verb is agreeably varied by corresponding changes. All this, which applies, however, more especially

to the ancient language, implies that the Armenian is a primitive and original tongue, which, like the Sanscrit, Arabic, Greek, the Latin generally, and for the most part the German, has suffered little change in structure from the commixture of foreign nations and their languages. The modern Armenian has been simplified in its grammatical structure by the mixture of the people with foreign nations, especially the Persians and Turks; changes similar to, but not so extensive as, the Latin language has undergone in its conversion into Italian, Spanish, and French.

The second Asiatic family has been called by philologists and naturalists, the *Arabian*, or *Semitic*, the last name being given to it on the hypothesis that the whole is derived from the eldest son of Noah: it embraces all the aboriginal inhabitants of Palestine, Asia Minor, Syria, and Arabia, from the east coast of the Mediterranean and Red Sea, up to the W. coast of the Persian Gulf. A brown complexion; more or less intense black or dark brown eyes; long, lank, and almost always black crinal hair; bushy large beards, generally black, but sometimes of a reddish tinge; an oval face in bold and distinct relief, with a nose always elevated, and not unfrequently aquiline; high forehead, and stature nearly of the European mean;—are among the most prominent characteristics of this family, as we occasionally see it exhibited in one of its handsomest forms, the Jewish: we say occasionally, for the differences existing between the Jews settled in different foreign nations, show plainly enough that they have more or less mixed their blood with the people among whom they have established themselves: for they are fair in Germany, brown in Poland, and nearly black in India. Compared with the European, the whole form of the Arabian is spare, slender, and of small bulk and weight. The wrists are comparatively slender, the hand small, and the fibre throughout soft and flexible. These last characters, however, it is to be observed, belong more or less to the inhabitants of all warm climates. In intellectual power and energy, the Arabian family stands unquestionably next to the European. The history, institutions, and literature of the Jews; the early civilisation of the Assyrians; the commerce and colonies of the Phœnicians; and the conquests, settlements, and literature of the Arabs, attest the truth of this assertion. The influence of the Hebrew institutions has pervaded the whole civilised world; while the language, literature, and religion of the Arabs may be traced from the western confines of Spain and Africa to the Philippine Islands over 130° of lon., and from the Tropic of Capricorn to Tartary, over 70° of lat. Among a race so energetic, civilisation made a very early progress, and it is not improbable but that 4,000 years ago the Phœnicians, Hebrews, Assyrians, and Arabs had already domesticated many of the useful animals, cultivated many valuable plants, and were acquainted with the useful and even precious metals. Several of the nations of this family had invented alphabetic writing, in times far beyond the memory of history,—as the Jews, Phœnicians, Arabians, and Assyrians. Their literature has always been of a more vigorous and masculine character than that of any other Asiatic people, but still has never evinced the taste, sound judgment, and practical common sense displayed by several European nations in various periods of the history of the latter people. For the fine arts, if we except architecture, they have not exhibited a glimmering of capacity. There is one circumstance, however, in the position of this family, which has always proved a serious obstacle to its advancement in civilisation—the unsuitableness of much

of the country which it inhabits for any other than the pastoral state of society, owing to its heat, drought, and sterility. In the genius and structure of the languages of the Arabian family, there is a common affinity. They possess sounds which no other people can articulate: while their neighbours have sounds in their languages, which they, in their turn, cannot imitate. In grammatical structure they resemble each other, and the words of their language are readily interchanged, while they, rarely, if ever, admit those of neighbouring tongues. While the dead language of India, for example, has found its way into the ultra-Gangetic languages as far even as New Guinea, into many of the Mongolic and Turkish languages, and into most of the ancient and modern languages of Europe, it has made no impression whatever on the languages of the Arabian stock of nations.

Between the Caspian Sea and Persian Gulf, to the west,—the ocean to the south, India to the east, and an indefinite line to the north, extending at least to 50° of latitude,—there are several races which have much resemblance, but which differ enough in person, mind, and language, to entitle us to class them as different families. The first of these, beginning in a westerly direction, is the *Persian*. With this family, the complexion is fair without transparency; there is little or no colour in the cheek. The hair is long, straight, and almost always jet black; the beard abundant, bushy, generally black, but now and then with a reddish tinge. The features, according to European notions, are regular and handsome, though generally minute; and, beard excepted, rather effeminate. The stature is little short of the European standard; and the body gracefully but not strongly formed, being altogether less robust than that of the European. The present inhabitants of Persia are much mixed with the blood of Arabian and Turkish settlers; and probably, therefore, the purest sample of the genuine Persian will be found in the emigrants established in foreign countries, called *Parsees*, who scrupulously abstain from intermixture with the people among whom they are settled. The Persians were among the earliest civilised nations of mankind; but their progress has not been in proportion to their precocity. It is probable that a thousand years before the Christian era they had tamed the useful animals, cultivated useful plants, were acquainted with the useful metals, and constituted a considerable community. That they had at an early period a written language, and that it was national, is attested by the existence of the undecyphered and peculiar characters, of unquestionable antiquity, still found at Persepolis and other places. When the Arabs conquered and converted the Persians about the middle of the seventh century, they found three spoken languages; viz. the *Farsee*, *Pehlvi*, and *Deri*, besides the *Zend*, or language dedicated to religion. The first of these has superseded the rest, which are known only by name, and become the universal language of the country. The modern Persian is of simple structure, like English, French, or Italian, that is, it possesses few or no inflections, prepositions governing its cases, and auxiliary verbs its times and modes. Many of its roots can be readily traced to the Sanscrit. Since the Arabian conquest, it has received a large accession of Arabic words, easily discovered by their exotic sounds, for there are many sounds peculiar to one people which are foreign to the utterance of the other. The entire literature of the Persians dates since the Arabic conquest, and therefore the earliest portion is little more than 1,000 years old, while the great bulk belongs to the fifteenth and sixteenth centuries. It consists of songs of

considerable merit; of poetical romances, wild and extravagant; of loose chronicles without date, founded on tradition alone; and of treatises on morals written to little purpose for one of the most sensual, mendacious, and astute, but also one of the cleverest people of Asia. For the history of the Persians, for 1,500 years before the Arabian conquest, we possess, from themselves, nothing but incongruous fable; and were it not for the occasional, but always unsatisfactory information respecting them communicated by the Greeks first, and then by the Romans, we should have known as little of their early history as we do of that of the Hindoos or Mexicans. For 2,500 years they have not been wholly stationary; but, measured by the European standard, they have made little progress. The physical geography of their country is not propitious to civilisation. Much of it, like Arabia, is, from drought and sterility, unfit for agriculture, and fitted only for occasional pasture; and hence, at all times, the roving and predatory habits of a large portion of its population; while the same character belonging also, and even to a greater degree, to the countries which surround it, the progress of industry and civilisation has not only been obstructed by internal, but also by foreign enemies. The Persian family has never been distinguished for the bold spirit of enterprise, or capacity for social improvement, which has characterised the Arabian. Very different from the Jews and Arabs, such has always been the mediocrity of talent among the Persians, that they have no name which belongs to history, except that of Zoroaster.

The next family of nations is the *Turkish*, or *Scythian*. The extensive country in which this family is found, or rather its parent country, lies between the 36° and 60° of lat. from the Hindoo Koosh, a continuation of the Himalaya, to the Belur Tagh, a spur of the Altai chain, and from the Caspian Sea to the western boundary of the desert of Cobi, where they are mixed with the Mongols. The family consists of the Scythians and Parthians of antiquity, and of the true Tartars and Turcomans, with the eastern and western Turks of the moderns—the Usbecks, Tadjiks, and Kirgis. To the west it has probably been considerably intermixed with Greek and Caucasian blood; to the east and north, with Mongolian; and to the south with Persian. The complexion of this race is a light brunette. The hair generally black, strong, and long; but when the complexion is remarkable for its fairness, it is brown, and of a more delicate texture. The colour of the eye is a light brown, but the form somewhat contracted. The skull is remarkably globular, the forehead broad, and the space between the brows very prominent; the proportions of the face are symmetrical; the upper jawbone is singularly short, and the basis of the lower jaw is also remarkable for its shortness; the facial line is nearly vertical. The body is stout, but the stature shorter than the European. Abstracting hair, complexion, colour, form of the eye, and stature, with the intellectual powers as they have been hitherto developed, the Turk is in fact a European. The Turkish language is one of simple structure, like the Persian or English; and its sounds, but not its words, resemble those of the former. By the conquests of the various nations who speak it, it has been spread from Greece to Chinese Tartary, and from Persia to 55° lat.; but, unlike the Arabic and Persian, the more cultivated languages of a more civilised people, it has nowhere superseded or much mixed itself up with the dialects of the conquered people; nor in the government of a conquered

people have the Turks ever exhibited the skill or tolerance of the Arabs or Mongols. What has been said of the character of the physical geography of the native country of the Arabian and Persian families, is still more applicable to the Turkish. A great portion of it is mere desert, without trees and water; and the cultivable portions are, in fact, but so many patches along the banks of rivers, thinly scattered over a boundless waste of sand. In these patches industry and civilisation spring up, surrounded in every direction by robbers and freebooters, and liable at every moment to be crushed by them. To use the words of Mr. Erskine, in his introduction to the 'Translation of the Memoirs of the Emperor Baber,' we find among the Turkish family 'tribes who, down to the present day, wander over their extensive regions, as their forefathers did, little, if at all, more refined than they appear to have been at the dawn of history. Their flocks are still their wealth,—their camp their city; and the same government exists of separate chiefs, who are not much exalted in luxury or information above the commonest of their subjects around them.' This cause, however, it must be admitted, will not account for the backward civilisation of the Osmanli Turks, who have now for centuries occupied some of the finest regions of Asia and Europe, and been during the same time in close communication with the civilised nations of the latter.

That some nations of the true Turkish family were early civilised to a certain extent, is not to be doubted. It was among them that Alexander, more than three centuries before the Christian era, found the principal materials for founding his Greek kingdom of Bactria; and from time immemorial the horse, ox, camel and dromedary, ass, hog, and dog, have probably been domesticated among them. The ass and hog are still wild animals of the country; and in early times it is not improbable the others were so also.

The Turkish or Scythian family seems to have invented no written character, and hence, in early times, to have had no literature. The evidence of some Bactrian coins shows, that when the more improved nations among them had advanced to writing, they used the alphabetic characters of ancient Persia. The best and most fertile portion of the country of the Turks was conquered by the Arabs towards the end of the seventh century, and this was followed by the adoption of the Arabian alphabet, and by much of the language and literature both of the Arabs and Persians. It was not, however, until the establishment of a firm government under Jaghatai, the son of Jengis Khan, that the Turkish language—from him called the Jaghatai Turkish—began to assume the character of a polished speech, and to be written; and its most flourishing period is comprised in the short time from the death of Timur, in 1405, to the death of Baber, in 1580. Its literature consists chiefly of popular poetry, in the form of odes or songs; but there are also some prose compositions, religious and chronological; of which last the most remarkable are the memoirs of Timur and Baber. Turkish composition, as described by Mr. Erskine, is less inflated and rhetorical than Persian and Arabian; and, judging by his own translation of the last of the works above mentioned, we should be disposed to consider Turkish literature as making a nearer approach, on the whole, to the good sense, taste, and simplicity of that of Europe, than any other literature of Asia. The *Uigur* language, used by a great portion of the inhabitants in Eastern Turkestan, resembles the Jaghatai much in form, but

is reported by the most recent travellers to present considerable differences.

In the south-eastern angle of what is commonly considered Persia, and now known by the name of Beloochistan, we have three races of men, distinct in person and language, living in the same country, and dwelling together, yet not often intermixing their blood,—a circumstance which will frequently be found in what remains of our review of the 'Races of Asia.' These are the Beloochees, Brahoos, and Dehwars. The *Beloochees* have dark-brown complexions, black hair, long visages, elevated features, with tall and active, but not robust persons. Half their language is a corrupted Persian; and, although the nature of the other be not ascertained, we have little doubt of its being primitive and original. The *Brahoos* are wholly unlike the Beloochees. They have thick short bones,—are, in fact, a squab instead of a tall people. Their faces are round, and their features flat, instead of being raised. Frequently they have brown hair and beard, from which we should augur a fairer complexion than is ascribed to them. The language of the Brahoos is entirely different from that of the Beloochees; it contains no Persian, and but a few words of the neighbouring dialects of the Hindoos. The *Dehwars* have blunt features, high cheek bones, bluff cheeks, and short bodies. What is remarkable of them is, that their language is that of a people to whom they bear no personal resemblance, the Persians. This, it may here be observed, is also the case with the Tadjiks of the Turkish family, who claim to be the aboriginal inhabitants of Bokhara; but then the Tadjiks, though stout in stature, have elevated features, and a ruddy brown complexion. None of these nations have a national literature, or seem ever to have invented an alphabet. Even in the time of Alexander, although rude barbarians, they were far from being savages; for they had oxen, goats, and camels, and cultivated wheat, barley, and several fruits.

To the N. of the races now described, and in the N.E. angle of Persia in its widest acceptation, we find another race, the *Afghan*. This family is marked by a brown complexion, black hair, sometimes brown, a profusion of beard of the same colour, high noses, high cheek-bones, long faces, a robust person, and a stature short of the European. Their language, called Pushtoo, is peculiar; it contains few Sanscrit words, but a good many of those of the popular language of Upper India, or Hindi: the sounds are rough, and some of the consonants are such as have no existence in the Persian. They have no alphabet, and use the Arabic characters; and their national literature, consisting chiefly of lyrics, is said not to be above 150 years old. In the time of Alexander these people were rude barbarians, but not savages, for they had towns, and corn, and cattle, and were probably on a level with the Germans and Britons in the time of Cæsar. It is only in comparatively late times that they have made any figure in history. Conquered by a Turkish nation, in the last years of the tenth century, they continued, by their military enterprises and invasions, to exercise great influence over the affairs of Hindoestan, and some even over the affairs of Persia, down to the middle of the eighteenth century.

Among the high mountains and narrow elevated valleys which lie E. of the country of the Afghans, exists a people, of whom little is known beyond their names: these are the Kaffers, or infidels, so called by their Mohammedan neighbours, the Dards, Tibet-Baltai, Chitral, Hazaras, and Aimaks. These people are described as remarkable for their fairness; the possession, occasionally, of light hair

and blue eyes, and great personal beauty. They speak many languages which are absolutely unknown to Europeans. According to a most judicious writer, Mr. Erskine, they constitute 'a series of nations, who appear never to have attained the arts, the ease, or the civilisation of the southern states; but who, at the same time, unlike those to the north, have, in general, settled on some particular spot, built villages and towns, and cultivated the soil.' They cultivate small quantities of wheat and millet, but their principal wealth consists in oxen and goats. The mountain barriers which surround them have protected them from invasion; and the narrow valleys which comprise their country, divides them into numerous tribes, and hinders their civilisation.

Proceeding eastward, we come to a great and numerous family, the *Hindoo*, spread from the 7th to the 35th degree of north latitude, and from the 68th to the 95th of east longitude. Correctly speaking, this is perhaps not one family, but an aggregate of races, bearing such a general resemblance to each other, as the European varieties do among themselves, although wider in degree. The colour is commonly black, or at least a deep brown; and hence the name of Hindoo, applied to them by their fairer Turkish and Persian invaders: for that word in the Persian language is equivalent to negro in ours. The hair is always long, coarse, and black; the beard of the same colour, and not deficient; the eye invariably black, or deep brown; the face oval, and the features well raised, symmetrical, and handsome; so far at least as the absence of colour and transparency will allow, but generally with an effeminate cast: with some defect in the lower limbs, the person is well formed. The stature is generally short of the European: the body is spare, and deficient in strength and capacity of enduring toil, if compared with the surrounding families; but the want of force is in some measure compensated by lightness, flexibility, and dexterity. Judging by the form of the skull, modern naturalists have placed the Hindoos, or still more whimsically, 'the higher orders' of them, in the same class with the natives of Europe. This is but an ingenious philosophical dream; and Orme, who knew them well, and who never suspected the possibility of placing them in the same category with men of white skins, robust frames, and high enterprise, justly describes them as having been 'from the earliest ages of antiquity a people who have no resemblance, either in figure or manners, with any of the nations contiguous to them.' Their general appearance to a stranger is truly and graphically described by Mr. Ford, chaplain to the factory at Surat in the commencement of the seventeenth century. 'A people,' says he, 'presented themselves to mine eyes, clothed in linen garments, somewhat low-descending; of a gesture and garb, as I may say, maidently, and well-nigh effeminate; of a countenance shy, and somewhat estranged, yet smiling-out a glozed and bashful familiarity.' Clearness and subtlety, rather than depth with vigour, characterise the intellectual capacity of the Hindoo. In practical good sense they are below the Chinese; in energy, vigour, and enterprise, below the Arabs, Persians, and Turks; but they are equally astute with any of these; if, indeed, they do not, in this respect, surpass them all. They have been repeatedly, and, for so numerous a people, easily conquered; but, on their side, they have never gone abroad for conquest.

The Hindoos were probably among the earliest civilised of the families of mankind. Nearly 2,200 years ago, the Greeks found them composing communities, whose advance in the arts of life was

equal to that of the Persians of the same period; and to have attained such a state, must have been the work of many previous centuries. The country they inhabit has a favourable climate, and fruitful soil, and nature presented to the exercise of their natural ingenuity many valuable products in the animal, vegetable, and mineral kingdoms, such as the useful animals, many of which are still found in a wild state in the country, with several descriptions of corn, esculent roots, cotton, and silk. All the languages of the Hindoos are of simple grammatical structure, except one, the dead Sanscrit, as complex as the Greek or Arabic. There are at least ten alphabets, which seem to have been separately invented, but afterwards more or less improved by borrowing from that of the Sanscrit, the most comprehensive of them all, particularly in the adoption of its regular and almost philosophical arrangement. The Hindoo language, which contains the greatest amount of Sanscrit, is the modern Hindi; and at the close of the tenth century, on the first Mohammedan invasion, a language was spoken at Delhi and its vicinity as nearly resembling it as Saxon does English. The nation, then, of which the Sanscrit was the vernacular language, probably had for its primitive seat the countries on both banks of the Jumna, about the 28th degree of N. latitude; and this is, indeed, pointed out by many intelligent Hindoos, as the locality of the ancient people whose language and institutions have exerted so great an influence over a large portion of mankind. As we diverge from this focus, the proportion of Sanscrit found in the dialects of India, becomes less and less; and in some of the languages of the South, not more of it is to be found, nor in any other shape, than that in which we find Latin in English. Hindoo literature, notwithstanding the unquestionable antiquity of its culture, is extravagant, rhapsodical, puerile, and destitute both of instruction and amusement. In ingenuity and invention it can bear no comparison with that of the Hebrews, Arabs, or Persians; nor, in common sense or authenticity, with that of the Chinese, tame and mechanical as is the latter. The authentic records of the Hindoos cannot be carried back by any ingenuity beyond eleven centuries; and even this much is the work of European antiquaries. That period then carries Hindoo chronology only to the middle ages of European history,—corresponds with the Arab conquest of Spain,—and is long posterior to the conquest of England by the Saxons, of France by the Franks, and of Italy by the Lombards. The capacity of the Hindoo family, then, tried by the test of literature, stands lower than that of any of its considerable neighbours. We have already said, that though in colour, form, and feature, a common character belongs to the whole Hindoo family, there exist also striking differences. We shall endeavour to point out a few of these. Beginning from the north-west, we have the *Cashmerians*, with genuine Hindoo features, brunette complexions, and rather stouter and taller persons than the inhabitants of the plains of Hindostan. They have a peculiar language and a national alphabet. South of these, and on the plain, we have the more numerous and powerful nation of the *Seiks* or *Singhs*. 'The features of the whole nation,' says Burnes, 'are now as distinct from those of their neighbours as the Indian and Chinese. With an extreme regularity of physiognomy, and elongation of countenance, they may be readily distinguished from the other tribes.' We shall add to this, that they are a tall, active, handsome race; of very dark complexions, but of features strongly marked by the genuine Hindoo character. Their language is a

dialect of the Hindi. Between the 25th and 23rd degree of N. lat., and the 72nd and 87th degree of E. lon., exists a numerous people, now, for the most part, speaking also a dialect of the Hindi, which has, in consequence of the Mohammedan conquest, received a large admixture of Persian. They are generally taller and fairer than the people of the south, and of all the Hindoo family may be considered as having made the greatest advance in civilisation. Their language is written in the same alphabet as that used in writing Sanscrit. Throughout India they are known as *Hindustanees*. To the east of these, and inhabiting the extreme eastern portion of the country of the Hindoos, we have the Bengalee race, distinguished by dark complexions, low stature, and feeble and slender frames beyond any other Hindoo people. The Bengalees have a peculiar language of simple structure, without inflexions, the parts of speech being formed by the use of particles and auxiliaries. Sanscrit words and roots enter largely into its composition; and it has been alleged of this, and of most of the other vernacular languages of India, that Sanscrit forms their groundwork, as Latin forms that of Italian, French, and Spanish. This, however, is unquestionably not true of all the languages of the south of India; and we think it very doubtful if it be so even of that of the Bengalees. This last has a peculiar alphabet, formed on the principle of the Dewanagari, an alphabet of the Sanscrit, the basis most probably having been a rude character of indigenous invention. There is no Bengalee literature which goes further back than the fifteenth century, and very little even of this. The Bengalees, like the other Hindoos, have no history; and the first authentic date in their chronology is the year 1203, when the country was invaded and conquered by the Turko-Persians, from Delhi. Upon the whole, the Bengalee race may be looked upon as the least energetic, physically and mentally, of the Hindoo family. Even within Hindostan, they have never ventured, as conquerors or emigrants, beyond the limits of their own country; while, from the earliest ages, they seem to have been invaded and subdued by all their western neighbours. In flexibility and acuteness, however, they equal any other Hindoos; and in our times, have exhibited a capacity for improvement beyond them all.

To the south of the Bengalees, we find the *Oria* race, or *Orias*, taller and stronger than the former, but still with slight and delicate figures. This race is remarkable, even among Hindoos, for a lack of spirit and intelligence. They have a peculiar language, of simple structure, into the composition of which both Sanscrit and Bengalee enter largely, but its foundation is most probably native. The alphabet is founded on the principle of the Dewanagari, and the literature consists almost wholly of translations and paraphrases from the Sanscrit.

To the south of the Nerbudda river, and of the *Orias*, are the populous race of the *Telingas*, stouter, taller, and much more energetic. These are the people called by the earlier European settlers Gentoos. Their language is inharmonious, harsh, not very simple in its structure, and is written in a peculiar national alphabet; following, however, as all the Indian alphabets do, the convenient classification of the Dewanagari. Sanscrit is found in it, as French exists in English, Greek in Latin, Arabic in Persian, or Turkish and Persian in the dialects of northern India. Their national literature is considerable in extent. This is the only Hindoo race which has exhibited any thing like a spirit of foreign enterprise; and that enterprise is wholly mercantile. Their commerce and

their migrations at present extend, and seem from very remote periods to have extended, to the islands of the Indian Ocean, and the countries between India and China. The spread of the language and institutions of the Hindoos, indeed, to these countries, was most probably in a great measure their work.

To the west of the Telingas, are the *Mahratta* race, smaller in person; rather of meagre and diminutive form. The *Mahratta* language is peculiar; and in reference to the admixture of Sanscrit found in it, the same observations apply as to the Telinga. Among all the considerable races of the Hindoo family, the *Mahratta* had long been the most backward in civilisation, and were totally unknown to history as a people, until the beginning of last century, when they suddenly entered on a career of conquest which threatened, and, but for the presence of a European power, would probably have effected, the subjugation of all India.

The south of India, beyond the Telinga and *Mahratta* races, is occupied by four distinct races, differing in language, and, in some respects, in physical form and intellectual character. All of them are (the inhabitants of Bengal excepted) of shorter stature, but of more compact form, than the Hindoos of the north. They are commonly also of darker complexion. Immediately to the east of the Telinga, is the *Tamul* race, occupying the whole of the level country below and to the east of the great table-land of the peninsula as far as Cape Comorin. South of the river Krishna, and occupying the table-land, is the *Karnata* or Canarese race, considerably civilised, and widespread in this part of India. Below the table-land, and on the western coast, are two races, the *Malabar*, and the *Tulaca*, to the south, peculiar in their physical organisation, intellectual character and language. Besides these well ascertained races, there are evidences of the existence of distinct races also in the peninsula of Gujrat and Kutch, and in the territory of Sind; in all of which there seem to have been peculiar languages, reduced at present to dialects by the admixture of conquerors and settlers from the north. Among the Hindoo races must be included the aboriginal inhabitants of Ceylon, or *Cingalese*, who resemble the Hindoo, and no other family, in their colour, the form of their persons, the character of their features, and the texture of their minds. They have a peculiar language, an indigenous alphabet, following the Sanscrit arrangement, and their speech contains an abundance of Sanscrit words.

But besides these more considerable races of the Hindoo family, there are a good many rude tribes, differing essentially in language, and often in person, from their more civilised neighbours, and from each other. If we reckon these last at not more than half a dozen, we shall find that the whole Hindoo family of nations does not consist of less than eighteen different races, differing more or less from each other, in stature, strength, mien, and intellectual endowment. If we carry our minds back to a period of Hindoo history when society was in as rude a state as in America on its discovery:—before the time when some of the races, by their superior energy, and more favourable position, had destroyed or absorbed those that were more feeble, or less suspiciously situated, we shall probably be led to conclude that the number of races and languages was, in proportion to extent, as great in India as we have found it to be in the New World, uniform as the Hindoo physical form and mind is commonly considered to be.

From the eastern limit of the country of the Hindoos to the western limit of China, and from the 7th to the 26th degree of N. latitude, there

exists a great family, which has a common character, that is, the different races, or nations, or tribes composing it, agree as much among themselves as Europeans, Hindoos, or Chinese. The generic name most commonly applied to this family is the *Hindoo-Chinese*. The following is an outline of its physical form. Head generally well proportioned, but of remarkable flatness in the occipital part. Features never bold, prominent, or well defined as in the nations of central Asia. Nose small, round at the point, but not flattened; and the nostrils, instead of being parallel, diverge greatly. Mouth wide, but the lower part of the face does not project; lips rather thick; eyes small and black. Eyebrows not prominent, nor well marked. The face, instead of being oval, as in the Hindoo, Persian, Turkish, Arabian, and European families, is of a lozenge form; arising from its great breadth across the cheeks, and the prominence of the latter. Complexion a light brown; much fairer than the Hindoo, but darker than the Chinese. It is never black, as in many Hindoos and most negroes. The people described are themselves aware that they are a fairer race than the Hindoos; and, like the Turks and Persians, call the latter 'black men.' The hair of the head is always black, lank, coarse, and abundant. On every other part it is scanty; and the beard is throughout thin and defective. The average stature may be taken at five feet three inches; so that they are shorter than the Hindoos and Chinese, but rather taller than the Malayan family. The lower limbs are better formed than in the Hindoo family, and the hands larger and less effeminate. The whole person is robust, but without the lightness, flexibility, and grace of the Hindoo form. It is at the same time more vigorous, strong, and hardy. The languages of this family of nations are for the most part monosyllabic, and as we approach China wholly so. Even the polysyllabic words of foreign languages naturalised among them are pronounced as if each syllable were a distinct word. It follows of necessity that they are extremely simple in their structure, particles supplying the places of inflexions in all parts of speech, and words following each other in the natural order of ideas. There are, besides the Pali, or character of the religious language, six alphabets, employed by as many distinct nations, which, however, on examination, may be reduced to three. The Birinese, Peguans, and Aracanese write in the same alphabet, with trifling modifications. The Siamese, Cambojans, and, for the most part, the Laos, write in one alphabet—that usually called the Siamese. But a portion of the people of Lao also write in an alphabet distinct from these two. The Birinese and Siamese have adopted the classification of the Sanscrit, but not so the peculiar alphabet of Lao. We hold all three to be of native invention, and the introduction of the Sanscrit classification to be only recent and incidental. The fourth alphabet, or Pali, in which religious works are generally written, is common to all the nations now mentioned, and is the same which is now used in Ceylon for a similar purpose, and which was once used in Java and other regions remote from India, the country in which it unquestionably originated. The languages of the Hindoo-Chinese countries now mentioned have not only a common character, as to sound, structure, and genius, but they contain also many words in common, the necessary effect of invasions, conquests, and settlements; the greater number of them, probably, in rude and early periods of society, and of which, with few exceptions, history has preserved no record. A large infusion of Sanscrit, through the medium of the Pali, is also com-

mon to them all. The Pali differs chiefly from Sanscrit in being more vocalic, more effeminate in its pronunciation, and less complex in its grammatical structure. Most probably it was a language which arose on the ruins of the Sanscrit; and was the result of a conquest of the people who spoke the latter, effected by some other Hindoo nation, the principal seat of whose government was Magadha or Bahar. The Pali is not an intrinsic portion of the Hindoo-Chinese languages; but it is found to exist in them, as Arabic does in Persian or Turkish. The mind of this family, as exhibited in their literary efforts, ranks them below that of the Hindoos. In enterprise they rank also below the latter. Their wars and enterprises have been wholly confined among themselves, and they have never exercised the slightest influence over the other great families of mankind; nor have they produced a single great name known to history, or one remembered even by themselves a century after his death. Still their civilisation must be of considerable antiquity, for the elements to promote an early advance unquestionably exist in their country, and these have never been presented to any family of mankind without begetting early improvement. The ox, the buffalo, and the elephant, are natives of their countries throughout; and very probably the horse and dog were so in early times. The soil too is generally of remarkable fertility; is well watered; and, in all likelihood, rice and some smaller grains, with some farinaceous roots and useful fruits, are indigenous. Inferior to the Hindoos, and still more to the Persians, Arabs, and Chinese, their superiority over all the negro and American nations is in a still greater proportion. Their progress in agriculture, in the common arts of life, the character of their religious and civil institutions, and their possession of a written character and a literature, to which they have been little indebted to foreigners, attest, in short, an early and considerable progress in society. Birman temples, with every appearance of authenticity, can be traced back to the 9th century, corresponding to the ages of Charlemagne and Haroun-al-Raschid. This, to be sure, is no great antiquity; but the people who constructed such buildings were already far removed from being savages.

We shall now offer a brief sketch of the races or varieties of the Hindoo-Chinese family, beginning our examination from the westward. After leaving the country of the Hindoo family—of the men of black complexion, fine prominent features, slender person, and graceful form—we approach the men of brown complexion, flat features, and strong-built but squab persons. Still the Hindoo form, whether from admixture of races or original constitutional difference, has not wholly disappeared, and the half-civilised people of Cassay, Cachar, and Assam, with about a dozen small tribes in a wild and half-savage state, may be described as partaking of the physical form of both Hindoo and Hindoo-Chinese. All these speak different languages, and the more civilised write, some with the alphabet of the Bengallees, and some with that of the Birmanes. Among a few language is polysyllabic, but monosyllabic dialects prevail.

To the south and east of the savage semi-barbarous or half-civilised tribes and nations now mentioned—extending to the south as far as the 7th degree of north latitude, and to the east as far as the Anam race—we find six considerable nations in which the physical character we have ascribed to the Hindoo-Chinese family is well marked, the genius of whose languages agrees, and who are nearly in the same state of social advancement. These are, the Aracanese, Bir-

mese, Peguans, Laos or Shans, Siamese, and Cambodjans. Each of these has its own peculiar language; and there exists even in their physical form, especially as to size, strength, and feature, differences which, though not very obvious to a stranger, are sensible enough to themselves. Living among them in scattered communities, as far as European inquiry has extended, there exist no less than eight tribes, migratory or savage, speaking as many distinct languages.

From the eastern frontier of Camboja, to the western frontier of China, exists the Anam race, comprising the Cochinchinese and Tonquinese. These, though they have the common characters of the Hindoo-Chinese family, differ from the rest in so many particulars that they might probably have been considered, without impropriety, as a distinct family of the human race. In stature they are shorter than their neighbours, the Laos, Cambodjans, and Siamese, and greatly shorter than the Chinese. Their persons are squat, but well-proportioned and active; their features are unseemly, their cheek-bones very high, and in that direction the face is very broad. Their language is purely monosyllabic, and in its terms has no admixture of the western languages. It has no alphabet; but, in lieu of it, uses, with little variation, the symbolic writing of the Chinese. Besides the Anam nation there are two considerable tribes inhabiting the same country, the Vhampa and Moi, speaking their own distinct and peculiar idioms. Thus, throughout the whole of the Hindoo-Chinese countries, and among a people probably not by one-tenth part so numerous as the Hindoos, we have thirty-two nations with distinct languages.

We now come to an important family, comprising, indeed, a very large portion of mankind, the Chinese. The outline of its physical character may be described as follows:—Colour a sickly white, or pale yellow; hair of the head lank, black, coarse, and shining; beard always black, thin, and deficient; there is but little hair on any other part of the body; eye invariably black, or dark; eyes and eyebrows oblique, turning upwards externally; cheek-bones high, and face round—neither square, nor lozenge-formed, nor angular in its outline; nose small, depressed at its extremity, and thick at the root; lips thicker than with Europeans, but moderate compared to those of the negro. The whole person is well built and symmetrical; there is not in it the lightness and agility of the Hindoo; but there is sufficient activity, and far greater strength. The hands are small and soft, like those of the other people of warm climates. The lower limbs are particularly well formed, far excelling in this respect those of all other Asiatic people. The languages of this people are purely monosyllabic, none of the nations comprising it having ever known how to put two syllables together; 330 poor monosyllables, beginning with a consonant, and ending in a vowel, a liquid, or a nasal, and each monosyllable admitting commonly of about four intonations, so as to make in all about 1,300 words, make up the whole of their meagre colloquial dialects, which are no less than fifteen in number, corresponding with the ancient provincial divisions of the country, which in early times composed, probably, at least as many distinct nations. The Chinese monosyllables are neither affected by number, case, nor gender; by mood, tense, or person; but are designated by prefixed or affixed particles, about thirty in number. The Chinese family never invented an alphabet. From knotted words they came to their present symbolic character, which bears no resemblance to the Egyptian or any other hieroglyphics. It is a language

for the eye, and not the ear—a character which may be read in English or in Arabic as well as in any Chinese language, and probably, indeed, with more precision. The Chinese writing, in fact, is a universal character, like the Arabic numerals, and has consequently many conveniences; but it has also its inconveniences. It has prevented the culture of oral language; occasioned the continuance of many distinct languages in the same country; and these wretchedly meagre in structure, sound, and comprehensiveness. The Chinese mind, as indicated by its literature, is frigid, mechanical, and unimaginative. For the fine arts, in which the Greeks and Etruscans had made such remarkable progress 2,500 years ago, the Chinese have never, to the present day, exhibited any capacity. They are laborious, practical, orderly—a vast assemblage, in fact, of shopkeepers and mechanics. They are among those families that made the earliest progress in civilisation. Whatever they have is, also, indigenous; for of all mankind they owe least to strangers. The Chinese carry their authentic history back to a period of nearly 3,000 years; and their sage, Confucius, lived and wrote in the present character 2,300 years ago—wrote, in short, his moral rhapsodies while Herodotus was writing history; and in the same age in which flourished Pericles, Phidias, Hippocrates, and Plato; so that China was obviously as inferior to Europe then as it is now. At that time, however, China, south of the Yellow river, which at present contains the greatest and most industrious portion of its population, was in a state of entire barbarism; and even the northern frontier was divided into many petty states. Two hundred and fifteen years before Christ, or above two centuries and a half later, the Chinese built along their frontier a wall of 1,500 miles in extent, some 20 ft. high, and broad enough for half a dozen horsemen to ride abreast. This was in the age of the Hannibals and Scipios, and in point of magnitude, but nothing else, far exceeded the power of the Romans and Carthaginians of the same period. We may infer from it that a people who could erect such a work, and who 2,000 years ago had a frontier of 1,500 miles to defend, were already numerous, and to a certain degree industrious. We may safely infer, then, that the Chinese, from their early progress in civilisation, from their invention of printing, their discovery of silk and porcelain, their progress in useful works, such as domestic architecture, bridges, and canals, and their acquaintance with the art of civil administration, are, if not the most showy and brilliant, at least the most practical and useful of the Asiatic races. One thing has been always common to this and the Hindoo family—an absence of the spirit of enterprise. In no age have the Chinese gone abroad in search of foreign conquests or adventures; and even their indirect influence on strangers has been confined to their own immediate neighbourhood, no doubt a wide circuit. Like all Asiatic people, too, they exhibit a disposition to stand still, after making certain advances in civilisation, which, in their case, have undoubtedly been respectable. They at all events display none of that illimitable facility of expansion which, in the history of our race, has hitherto alone characterised the European family. The Europeans of the 19th century bear very little resemblance to those of the 15th, except in spirit and enterprise; but we perceive that the Chinese of these two distant ages are in all respects very nearly the same.

Even in the apparently homogeneous population of China there is to be found considerable diversity, both physical and intellectual, probably as

great as in the European family or the Hindoo. It has been already stated that there are fifteen languages, belonging to as many provinces; and, indeed, several provinces have more than one language. The inhabitants of the southern and eastern coast are commonly more athletic than those of the centre and north; and among the latter are found some who have less of the obliquity of eye which is so characteristic of the Chinese, and whose features altogether approach more nearly to the European. There are even races within the empire that are not Chinese either in person or speech, and who still preserve their independence, as the Meao-tee in the interior, the Lolos on the western frontier, with the mountaineers of Hainan and Formosa. These two islands, indeed, seem only to have been colonised by the Chinese, as the Saxons colonised Britain; while the aborigines, like the Welsh and Highlanders, have been confined to the mountains. The language of Formosa is, in fact, polysyllabic, and contains many words of the Malay family of languages; and the Chinese colonisation of this island we know to be only of two centuries' date.

Near the Chinese we have another great family, bearing it some resemblance, but still so distinct in physical and intellectual character, that we are warranted in classing it separately. This is the *Japanese*, which occupies a country of great extent, in the fine and temperate climate from 30° to 45° N., and comprises a population inferior only to the Chinese. Their colour is tawny; stature short but robust; noses flattish; eyelids thick, and, as it were, puffed; eyes, as usual, dark, but less sunk than those of the Chinese; lower limbs large and thick, not clean, and well made, as with the latter. 'In the main,' says Kemper, 'they are of a very ugly appearance.' The language of the Japanese, instead of being monosyllabic, is polysyllabic. The Chinese can pronounce the aspirate *h*; the Japanese have no such sound in their language. The Chinese have, as it were, a natural incapacity of pronouncing the consonants *r* and *d*, which they always convert into *l*. The Japanese pronounce them with the same facility as Europeans. The different pronunciation of the two people made a lively impression on Kemper, who describes it as follows: 'As to the pronunciation, that also is very different in both languages, whether we consider it in general, or with regard to particular letters; and this difference is so remarkable, that it seems the very instruments of voice are differently formed in the Japanese from what they are in the Chinese. The pronunciation of the Japanese language in general is pure, articulate, and distinct, there being seldom more than two or three letters, according to our alphabet, combined together in one syllable: that of the Chinese, on the contrary, is nothing but a confused noise of many consonants, pronounced with a sort of singing accent, very disagreeable to the ear.' He adds, that, with the exception of a few commercial terms, the language of Japan does not contain a single word borrowed from the dialects of China; and hence he argues, with justice, that the two nations are wholly of distinct origin. The Japanese, to a certain extent, have adopted the symbolic writing of the Chinese; but they have also an alphabet of their own, which is syllabic, like that of the Manchoes, and like it, too, written from top to bottom. A Hindoo alphabet has also been recently discovered among them, confined to the priesthood, whose ritual is in the Sanscrit or Pali language. The Japanese, from the accounts we possess of them, are a race of considerable physical and intellectual energy; inferior to the Chi-

ness in ingenuity, but superior to them in spirit and courage. Favoured by a country enjoying many advantages of soil, climate, insular position, with most probably the possession, on the spot, of many of the most useful plants and animals, they could hardly fail to make an early progress in civilisation. Their authentic history, according to themselves, dates 660 years B.C. This is probably greatly over-rating its real authenticity; for it would carry us back almost to the foundation of Rome, and would precede, by nearly two centuries, the age of Confucius and Pericles. In fact, they admit that they are a people of more recent civilisation than the Chinese by twelve centuries. They have had, however, a long time for improvement, and for the last three centuries may be considered as having been absolutely stationary, if indeed, as the result of their self-exclusion from strangers within that period, they may not rather be considered to be in a more unfavourable position than before it. While Chinese civilisation has been repeatedly interrupted by the invasions of the shepherds of the North, no strangers have ever successfully invaded Japan; and the only attempt at conquest—made by the Mogul conquerors of China between five and six centuries ago—the elements, and the courage of the Japanese, repelled, and punished by the destruction of 100,000 of the invaders. An industrious, and, in many respects, an ingenious culture of rice, barley, and wheat—respectable manufactures of silk, cotton pottery, and lacquered ware,—letters, literature, authentic records, the art of printing, and political institutions—prove the Japanese to be capable of a respectable civilisation according to the Asiatic standard; but they prove also that, notwithstanding their more favourable position, both as to climate and political security, their natural genius is inferior to that of the Chinese. That they are a peculiar and original family we think there can be no question. This is their own opinion; and Kemper observes, in reference to this subject, that they 'fancy themselves highly affronted by the endeavours of some who busy themselves to draw the original of their nation from the Chinese or others of their neighbours.'

The individuals of the Japanese family, like other races, exhibit great differences, physical and intellectual. The inhabitants of Nipon, the principal island, are distinguished by big heads, flat noses, and muscular fleshy complexions. Those of Saikok are short in stature, of slender make, but well-shaped and handsome. The inhabitants of the Loochoo islands are described as being neither Chinese nor Japanese, but partaking of both. Their stature does not exceed 5 feet 2 inches, so that they are a very diminutive race. Their language is peculiar, partaking equally of the monosyllabic and polysyllabic character. The Japanese, on the whole, show much diversity, though not to so great an extent as in China; owing to the existence of a more perfect oral language, a common alphabet, and, in general, the absence of the artificial medium of communication which is universal among the people of the latter country.

To the N.E. of China we have another family, the *Coreans*, occupying a peninsula equal to Britain in extent. The Coreans are described as superior in strength and stature to the Chinese and Japanese, but they are evidently a race very inferior in mental energy and capacity to either. Their language, or most probably languages, are peculiar, differing from those of their immediate neighbours, the Manchows, Chinese, and Japanese. It would appear, also, that they have a national alphabetic character, although occasionally having recourse also to the symbolic writing of China. In the

useful arts they have made considerable progress, but the standard of their civilisation is much below that of the Chinese and Japanese. Their authentic history goes back to 100 years B.C., or corresponds with the classic era of Rome.

The inhabitants of two-thirds of the superficies of Asia, from the seats of the families already specified to the Frozen Ocean, remain to be described. These have a common resemblance in some important features; but it is only such a resemblance, colour alone excepted, as exists in all the families already mentioned from the eastern shore of the Atlantic to the eastern confines of Hindostan. Modern naturalists have described the whole, including in it the nations to the E. of the Hindoos, which we have just classed, as one of the five permanent varieties of the human race, under the name of the *Mongolian*. Under another classification, we may divide the races into those which inhabit the valleys or southern slopes of the Himalaya chain; those which dwell between the latter, the Chinese and Corean families, and the Altai mountains; and, lastly, those which dwell between the Altai range generally and the Northern Ocean.

The first race, proceeding in the above order, and beginning from the E., is the Bootea, or inhabitants of Bootan. 'It is not possible to conceive,' says Turner, who was perfectly well acquainted with both, 'a greater dissimilarity between the most remote inhabitants of the globe than that which distinguishes the feeble-bodied and meek-spirited natives of Bengal, and their active and herculean neighbours, the mountaineers of Bootan.' They have invariably black hair; the eye is a very remarkable feature of the face—small, black, with long pointed corners, as though stretched and extended by artificial means; their eye-lashes are so thin as to be scarcely perceptible; and the eyebrow is but slightly shaded. Below the eyes is the broadest part of the face, which is rather flat and narrow from the cheek-bones to the chin. The skin, about as fair as that of a southern European, is remarkable for its smoothness; and the beard does not present itself until a very advanced age, and then is scanty. The Bootees are a stout, active race, and their stature occasionally rises to six feet. Mr. Turner, indeed, describes them as 'models of athletic strength.' The Bootees are a long-settled agricultural people, and have made considerable progress in the arts; have a peculiar language; an alphabet which follows the Hindoo arrangement; and in civilisation, allowance being made for their remote, insulated, and mountainous country, may be considered on a par with the inhabitants of the countries lying between India and China.

Westward of the Bootees is the country of the Nepal, which, independent of Hindoo colonists and settlers from the S., who are sometimes of pure blood, but have often mixed it with that of the natives, contains eight aboriginal races, viz., the Gorkhas, Magars, Gurungs, Jariyas, Newars, Murmis, Kirauts, and Lapchas. This, from the predominant race, may be called the *Gorkha* family. These are a short, robust people, of an olive complexion, and of features less Mongolian than those of the Bootees. Their languages are for the most part distinct from each other, and polysyllabic, and the greater number of them have a knowledge of letters. There is, among one of the races at least, the rudiments of a native alphabet; but the Dewanagari, adapted by additions and omissions to their native pronunciation, has been adopted by the greater number. Their state of civilisation is nearly the same as that of the Bootees; but they have, recently at least, exhibited a greater spirit of enterprise.

To the N. of Bootan and Nepal, and on the terrace of the grand chain of the Himalaya, at an elevation of 12,000 or 13,000 ft. above the sea, in a cold and dry climate, and an ungenial soil, are found the Tibetan family, which, as far as our knowledge goes, extends over 26 degrees of longitude, or from the 74th to the 100th. The Tibetians have what is commonly called the Tartar countenance—a face angular and broad across the cheek-bones, and small black eyes with very little beard. Instead of being tall, like the Booteas, they are short, squat, broad-shouldered, but slow and sluggish in mind as well as body. They are mild in disposition, and have never exhibited the mental energy or enterprise of their neighbours either to the N. or S. The horse and ass, two species of the ox, the goat and sheep, are domesticated among them. All these are probably natives of the country, and the two first are said still to exist in the wild state. Their language is guttural, nasal, and harsh, and in a great measure polysyllabic. They possess a peculiar alphabet, which bears some resemblance to that of the Hindoos in their neighbourhood, but does not follow its arrangement. For religious purposes they have another alphabet, much resembling the Pali, and which they no doubt received along with the religion of Buddha or Fo, which they have been the medium of communicating to many of the tribes of Tartary, including the two which have conquered China. They have long possessed the art of printing with immovable wooden blocks, which they use, however, only for the multiplication of religious works.

We now come to far more important races: those inhabiting generally the vast plateau and extensive ascents between the Himalaya range in the south, and the Altai range and the ranges which continue it to the eastward, in the north, as far as the 140th deg. of long., and then between the latter and the right bank of the Amur, or Amour. This is the *Mongolian* family, and may be described as being generally comprised between the 40th and 50th degrees of lat., and ranging over 80° of long., or from the 60th to the 140th deg. E., although, in some situations, exceeding these limits N. and S. by a few degrees. We shall first give the general description of the whole family. Forehead low and slanting; head altogether of a square form. The cheek-bones stand out widely on either side; the *glabella* and *ossa nasi*, which are flat and very small, are placed nearly in the same plane with the malar bones; there are scarcely any superciliary ridges; entrance of the nose narrow; the malar *fossa* forms but a slight excavation; the ulvular edge of the jaws is obtusely arched in front; chin rather prominent; body short of the European stature, broad, square, and robust; extremities short, but slender; shoulders high; neck thick and strong. Hair always black, and the eye invariably black or dark brown. Hair of the head long and lank; and there is a paucity of beard, as well as of hair over the rest of the body.

There are two great divisions of this family known to Europeans, under the name of Eastern and Western Tartars. The first comprise chiefly the Manchoes, sometimes called also Manshurs and Manjurs. These are the present lords of China, of which their parent country constitutes but a dependency, though a favoured one. Those that are seen in China are not always easily distinguished from the Chinese. They are described as shorter and squatter than the Chinese, and having a more angular countenance and harsher features. It must be recollected, however, that a perfect similarity of dress and costume is apt to

mislead the observer, and that most of the first conquerors marrying Chinese women, the nominal Manchoes of China are in reality, in a great measure, a mixed race. Inhabiting a more genial climate and a better soil than the Mongols or Western Tartars, the Manchoes are a more civilised people than the latter. They have for the most part habitations, and some agriculture, though flocks and herds constitute their chief wealth. The great river Amur, or Saghalien, and its many branches, which abound in fish, passing through their territory, many exist as fishermen. The Manchoo language is quite national and peculiar; it is polysyllabic, full, and sonorous. It has the sort of copiousness which characterises the Sanscrit and Arabic, and which, in a perfect language, ought rather to be called redundancy. The number of words for the horse, ox, and dog, according to age, sex, size, colour, and other qualities, is, for example, overwhelming. The present alphabet of the Manchoes is syllabic, written in columns from the top to the bottom of the page, like the Chinese, but, contrary to the practice of that character, from left to right. The Manchoes, though they have acted a considerable, have by no means acted an equally distinguished, part on the great theatre of the world with their neighbours the Mongols. In the eleventh century, however, they established the great empire known in the middle ages by the name of Katay or Cathay, by uniting to their own country the northern half of China. This, after lasting 117 years, was subverted by the arms of Jenghis Khan; but in the year 1624, and at an interval of more than four centuries, the Manchoes again possessed themselves of China, and have now for more than two centuries governed that empire, and probably with a skill and wisdom never equalled by its native masters.

We come now to the true Mongols—to the race, 'whose rapid conquests,' as Gibbon expresses it, 'may be compared with the primitive convulsions of nature, which have agitated and altered the surface of the globe.' They extend westward from the longitude of Pekin, or about 116°, to the Sea of Aral, a sweep of at least 3,000 m., and with the same physical form, the same language, and no great variety of manners, embrace the communities or tribes known to us under the various denominations of Mongols, or Moghuls, Kalkas, Eluths, Ogurs, Kokonors, Kami, and Kalmucks. It is peculiarly to this family that the descriptions given by European writers of 'the Tartars' is applicable. They are, in fact, the same men as the companions of Attila, Jenghis Khan, and for the most part of those of Timur, who, though priding himself on being a Turk, was in reality a Mongol, whose family had been long settled in a Turkish country, and whose myriads were a mixture of both races. Gibbon, on the authority of Jornandes, describes the person of Attila, and says that it exhibited 'the genuine deformity of a modern Calmuck.' An ecclesiastic, quoted by Matthew Paris, gives, in 1243, a picture of the Mongols who were the instruments of the conquests of Jenghis and his sons, which is evidently drawn by an eye-witness. 'The Tartars,' says he, 'have firm and robust bodies, lean and pallid countenances, high and broad shoulders, short and distorted noses, pointed and prominent chins, a low and deep upper jaw, long teeth, distant from each other, eyelids stretched out from the temple to the nose, eyes black and unsteady, an expression oblique and stern, extremities bony and nervous, large and muscular thighs, but short legs, with a stature equal to our own, the deficiency in the length of the lower limbs being made up in the rest of the body.' The Catholic missionaries, who in the reign of the

Chinese emperor Kang-hi repeatedly travelled over the country of the Mongols, and actually surveyed a portion of it, confirm this description. The Mongols, by their statement, are a stout, squat, swarthy, and ill-favoured people, with the common Tartar countenance expressed in its boldest lineaments. The language of the Mongols is polysyllabic, and differs wholly from that of the Manchoes. What is remarkable, and almost peculiar to this people, is, that the whole race speak the same language, from the longitude of Peking almost to the Caspian, and in some situations even into the heart of Siberia, and westward within the confines of Europe. This arises, no doubt, from their being physically the same race, from their ever wandering and unfixed habits, the frequent mixture arising from these habits, the practice of a universal hospitality, and their having been repeatedly united under the same government. Something similar to this may be found among the islands of the Indian Ocean, the languages of which have a vast number of words in common, a specific sea constituting in this case a common medium of intercourse and communication, like the steppes and deserts of the Mongols, the *prau* and the canoe, in fact, taking the place of the horse, the ox, and the camel. The country of the Mongols is cold, elevated, and dry, few parts of it being fit for culture, and a great portion of it consisting of deserts, or 'seas of sand,' as the Chinese express it, in which there is neither herb nor water. It abounds, however, in game and wild animals. For the chase there is the tiger, leopard, deer, antelope, hares, and many species of the gallinaceous family. The camel, ass, and even the horse, are still found in it in their wild state; and no doubt the ox and sheep were so also before they were appropriated. Such a country necessarily made the Mongols early a nation of shepherds and hunters, and chained them down as it were to that condition.

The Mongols, with the exception of a very small number, live almost exclusively on animal food; and their clothing and dwellings, or tents, are for the most part of animal tegument or fibre. When urged to agricultural employment, their answer is, 'Herbs were made for the beasts of the field, and the beasts of the field for man.' (*Ante*, p. 178.)

Their whole employment consists in the tending of cattle, war, and the chase. Their knowledge of letters is of the humblest order, and applicable only to the purposes of superstition in the hands of their priests. One tribe, the Igurs or Ogurs, invented a meagre alphabet of fourteen letters, which, improved and extended from that of Tibet, is still in use. Of their own history and important migrations, which civilised nations have recorded for more than 2,000 years, they know as little as rats or marmots do of theirs. Jenghis Khan was wholly illiterate, and Timur and Baber had a knowledge only of Turkish and Persian letters. The immense country of the Mongols may be described as a vast nursery of soldiers, consisting of many camps, equipped, provisioned, and ready to march at a moment's notice without inconvenience or expense. The people have strength and hardihood of body, and vigour and intelligence of mind, to avail themselves of these advantages; and whenever a leader of genius, capable of uniting the tribes in a common adventure, has sprung up among them, they have proved a pest and nuisance to all the civilised races of mankind within their reach. Such a union made it necessary for the Chinese to build their great wall more than two centuries before the Christian era; occasioned about the same period the destruction of the Greek kingdom of Bactria; caused

the settlement of the Huns within the confines of Europe, with their acts of destruction and rapine in the finest parts of it, in the fourth and fifth centuries; and the conquest of Turkestan, Persia, India, and China, achieved by Jenghis Khan, Timur, and their descendants, in the thirteenth, fourteenth, and fifteenth centuries. The repetition of such exploits has become impossible in modern times, owing to the immense strides made by western civilisation, as in other things so in warfare. Asiatics, indeed, though sometimes obtaining temporary advantages, have never been a match for the Europeans, even when the latter were comparatively weak and semi-barbarous. Attila was defeated in the plains of Chalons by an inferior army of the barbarians of northern Europe; and the whole of his adventures were, after all, but so many predatory inroads on a large scale. Jenghis Khan, his successor, effected only the conquest of the weakest and rudest nations of Europe, the Russians, Poles, and Hungarians, and even their subjugation was temporary. Timur did still less, and the Bosphorus was sufficient to stop the progress of a conqueror who had marched in triumph over 5,000 m. of Asiatic territory. The Franks defeated the Arabs in the height of their pride and power. A handful of Normans dispossessed them of Sicily, and the mountaineers of Biscay, after a long struggle, finally expelled them from Spain; so that within the memory of history no Asiatic people has formed any thing better than a temporary establishment in Europe. Civilised Europeans have been conquered by barbarians of their own family; but not, since the historic age, by Orientalists. The researches of modern philologists, however, make us acquainted with the singular and apparently unaccountable fact, that the languages of India, the Manchoes, and Mongols, and of the Turkish, Persian, and European families, contain many words in common; not so much changed by the peculiar pronunciation of each people as not to be clearly identified; while the Arabic and other languages of the same family do not contain any such common words. But this may be accounted for on the supposition of an invasion and settlement of Transoxiana, Persia, and Europe by the Mongols in times far beyond the reach of history, before the invention of letters, when there were neither Greeks nor Romans to tell the story. How the Mongolian languages came to possess many words in common with the Hindoo seems obvious enough. All the Mongolian nations at this day receive their religion, and the language in which that religion is explained, from the Tibetians, and the Tibetians, it is admitted, have received both from India. But what, it may be asked, could tempt the Mongolian nations to the invasion, conquest, and settlement of a country so rude and remote as Europe in the times we are supposing? The answer is, the same cause which produces constant international wars among themselves down to the present moment,—the restless military habits engendered by their position,—the constitutional animal courage of a race energetic and enterprising,—the desire to find new pastures for horses, herds, and flocks, which a well watered and (then) thinly peopled country like Europe could well supply; and the victories of one tribe forcing the conquered to abandon their own lands and seek new establishments. This was, in fact, the cause which drove the Huns of the second century B.C. upon the Greek kingdom of Bactria, and eventually brought that people to Europe in the third and fourth centuries after Christ, producing even their permanent settlement on its eastern confines. The conquests of Attila and of Jenghis it may be added, had

similar objects in view, but took a different direction, and ended differently, owing to the resistance in their times of a comparatively numerous, wealthy, and civilised people. Timur, with the strength which Europe had already attained, at the close of the 14th century, only threatened to invade it. Both he and Jengis invaded and overran all the other countries of the West in the languages of which Indian words are to be found; but, like the remote invaders to whom our theory alludes, they never touched the Arabian peninsula, nor formed any permanent establishment in any country in which the Semitic class of languages is spoken.

The native capacity of the Mongolian family is sufficiently attested by the production of such men as Attila, Jengis, Timur, Baber, and Kublay Khan, as well as in the conquest, the retention for more than 200 years, and the skilful government during nearly the same time, of the vast empire of China. It is singular, indeed, that the most useful, if not the greatest public work in that country, the grand canal of 600 m. in length, was the work of the first Mongol emperor, who was the undisputed lord of the whole. Kublay Khan, the grandson of Jengis, though born a shepherd, added to the enterprise and courage of his own race the learning and skill of the conquered people.

Between the Altai and Daurian ranges and river Amur to the S. and the Frozen Ocean to the N., there exist tribes almost as numerous as in any equal extent of the American continent, and far more distinct in physical form. Many of them are obviously distinct families; and others, not so considered, will, we are satisfied, be found to be such on a better acquaintance. The whole are so numerous, obscure, and unimportant, that it is difficult, or rather impossible, to classify them satisfactorily.

There are found near to and on the banks of the Amur or Saghalien, four nations, called Soloni, Kertching, Daguri, and Natkis, all of which have languages wholly different from their immediate neighbours the Manchoes, while they differ also among themselves. They are rude, dull, and wholly without the knowledge of letters; live on fish; and with them we find the dog, from necessity, first substituted for the horse and the ox.

Sherbani, the grandson of Jengis Khan, led a colony of Mongols into Siberia, amounting to 15,000 families, and his descendants reigned there for 800 years, or until the Russian discovery and conquest; so that the Mongols, although originally foreigners, now form a considerable portion of the population of Siberia, either pure or mixed up with the native tribes of the country. The *Tungoos* are said to be allied to the Manchoes. They are of middling stature, with features more distinct and more in relief than the Kalmucks or Mongols; well-made, active, and courageous. The *Buriats*, it is pretended also, are of the Mongolian race; but it is evident from their physical form that this cannot be the case, notwithstanding the existence of Mongolian words in their language. According to Pallas, an eye-witness, they are short in stature; and so effeminate that six of them hardly equal, in point of strength, a single Russian. These cannot be of the same stock with the powerful and intrepid people that, centuries ago, conquered these same Russians. The *Wagaul* constitutes a small family dwelling between the Ouralian mountains and the Obi, of stature below the European, with black hair, scanty beard, and Tartarian face. The *Ostiaks* are a family small and feeble, with hair of a light colour and reddish tinge. They can count no further than 10, and live almost exclusively on fish. The

Samoyeds extend along the Frozen Ocean from 40° to 115° E. lon. The stature of this very distinct family is commonly from 4 ft. to 5 ft., and consequently at least a foot short of the European standard. Head disproportionately large; face flat; mouth large; ears also large, and the lower portion of the face projecting. The *Tchouktchis*, *Yakagines*, and *Koriaks* occupy the extreme eastern angle of Asia fronting America, and are a coarse-featured, short people, without, however, the flat noses or peculiarly small eyes of the Kamtchatcades. They resemble the Esquimaux of America; and speaking three distinct languages, are probably as many distinct races. The *Kamtchatcades* are a very short race, with broad shoulders, a large head and a flat elongated countenance, thin lips, small eyes, and very little hair. The *Aleutians*, or inhabitants of the Aleutian islands, are a different race from these. They are swarthy, short, but stout and well-proportioned. The people occupying the great island of Saghalien, at the mouth of the Amur, and the whole chain of the Kurile islands, from the Cape of Kamtchatka to Jess, in Japan, are a distinct race from any of those above mentioned.

The stoutest and most vigorous of the people of this part of Asia, or those found to the S., dwell in moveable tents, like the Mongols, have horses and oxen, and are not wanting in stature, strength, and the military virtues. On the contrary, the inhabitants of the bleak and inhospitable regions towards and on the shores of the Polar Sea all exchange the horse, ox, and sheep for the reindeer and dog; live in cabins or caverns instead of moveable tents; are small weak, and pusillanimous: 'a race,' as Gibbon expresses it, 'of deformed and diminutive savages, who tremble at the sound of arms.' Among all the native races to the N. of the Altai mountains letters are wholly unknown; agriculture is scarcely practised; for war on a large scale the people have neither disposition, capacity, nor means; and, to obtain food and clothing, nearly their whole time is consumed in fishing and the chase.

There are no means whatever by which to form anything like a correct estimate either of the extent or population of the greater number of Asiatic states. The estimates of the population of China only vary from about 250 to about 368 millions (the latter is probably nearest the truth); and the differences in the estimates of the population of other countries, though much less in absolute amount, are quite as great in degree. There are also great discrepancies in the estimates that have been formed of the area of the different states, originating partly in the want of correct measurements, and partly in the fluctuating and ill-defined nature of their boundaries. These estimates will be given in treating of the different states. Summing up the whole, we find the total area of Asia to be 17,805,146 English square miles, inhabited by a population of 780,500,000 souls. This gives 44 inhabitants to the square mile, showing the density of population to be rather more than half that of Europe. Taking the area of terra firma on the globe at 51,403,438 square miles, and the population at 1,221,000,000, the various divisions will be as follows: the pop. of Australasia 1 per sq. mile; of America, 5; of Africa, 7; of Asia, 44; and of Europe, 75. This gives the average density of population on the globe at 22 per sq. mile, so that Asia has exactly double the amount.

V. PROGRESS OF DISCOVERY.—The geographical knowledge of Asia may be considered as commencing with its western countries, and with Greece, the cradle of our present civilisation.

Judea and Phœnicia are the quarters from which the earliest information comes. The Jews scarcely recognised distinctly any object more easterly than the Euphrates, emphatically termed by them 'the river,' beyond which, at a vague and uncertain distance, they placed 'the ends of the earth.' Tyre traded with several cities on its banks, but does not seem to have pushed her intercourse further; though Dr. Vincent reasonably conjectures, that the chests of rich apparel, carefully bound with cords, brought by this channel, were from countries much more remote. A great traffic is mentioned with Dedan, a city of Arabia, which, from its many isles, and its merchandise of precious cloths, must have been in the vicinity of Omuz, and have drawn these commodities from India. They were transported, by large caravans, across Arabia to Edom or Idumea, which was greatly enriched by this traffic. From the south of Arabia, Sheba, or Sabea, sent caravans laden with gold and incense, both probably obtained from the opposite coasts of Africa.

The knowledge of Asia came to be somewhat extended in the 5th century B.C. The triumphant contest of Greece with Persia excited deep interest, and generated plans of conquest which rendered every information respecting that empire acceptable. The most valuable contributor was Herodotus, who, during a residence at Babylon, collected materials for a description of the satrapies into which it was divided. To the north it extended over a part of the Caucasian provinces, enabling the writer to delineate tolerably the extent and boundaries of the Caspian. Margiana and Bactria probably reached to the Oxus, beyond which wandered the Scythian tribe named Massagete. India was the most easterly satrapy; but being described as containing no great river except the Indus, and bounded by an immense desert, it evidently contained only the western provinces, while the Gangetic and southern countries were entirely unknown. Herodotus gives a somewhat rude description of the inhabitants, suggested probably by the bordering mountaineer tribes. The fact of its affording a revenue four times that of Egypt shows clearly that it was already opulent and improved. Darius is said to have employed Scylax, the Caryandrian, to descend the Indus, sail along the southern coast, and come up the Red Sea: a voyage accomplished in two years.

The next great source of information to the Greeks was the expedition of Alexander. It did not, indeed, extend much beyond the already known limits of the Persian empire; but the countries, before known only by vague report, were then carefully examined and described. Under his direction two engineers, Diognetus and Bæton, made surveys of each march, which were published by the latter, but are unfortunately lost. To the north, Alexander pushed beyond the Jaxartes, but without being able to bring under subjection the rude tribes who tenanted those regions. On the side of India, he learned the existence of the Ganges and the fine countries on its banks, to which he eagerly sought to penetrate; but the mutiny of his troops compelled him to stop at the Hyphasis. The Greeks had then an opportunity of observing some of the peculiarities of the Indian people; their division into castes; their fantastical religious austerities; and the merit attached to suicide. Alexander descended the Indus to its mouth, and sent thence a fleet under Nearchus, who traced the coast of Asia as far as the Persian Gulf, which he ascended, and joined his master at Babylon. This voyage, now so easy, was then considered a most perilous achievement, and the party arrived in a state of

distress and exhaustion. Alexander himself, in returning through the maritime provinces, became aware of their extremely desolate character, through which, indeed, his army was in danger of perishing.

On the partition of Alexander's empire, Seleucus obtained Syria, with as much of the countries to the eastward as his arms could hold in subjection. He is said to have attempted the conquest of India, but there is no distinct account how far he penetrated; probably it was not beyond Alexander's limit. He sent, however, an embassy, under Megasthenes, to Palibothra (Pataliputra) on the Ganges, capital of one of the most powerful kingdoms ever formed in India; and through this channel a good deal of additional information was obtained. He also employed his admiral, Patroclus, in an attempt to circumnavigate Asia; and rumour even represents him as having accomplished this vast circuit, and entered from the northern ocean into the Caspian; but the manifestly fabulous character of this report makes it impossible to conjecture how far he really penetrated.

All the materials thus collected were at the disposal of Eratosthenes, the learned librarian of Alexandria, and were employed by him in forming, on the astronomical principles of Hipparchus, the first systematic delineation of the globe. It is, however, as to Asia, extremely imperfect. The Ganges is made to fall into the eastern ocean, represented as bounding the habitable earth. The Cape of the Coliaci (Comorin) is made at once the most southerly and most easterly point of Asia. About ten degrees north of the Ganges, and a very little east, is placed, in the same ocean, the city of Thine, often alluded to as the extremity on that side of the habitable world: this appears the first very imperfect rumour which reached the western nations of the Chinese empire. Not far from Thine the coast turned westward, stretching along the great northern ocean, which bounds both Europe and Asia, but at so low a latitude that the Caspian was considered to be a gulf connected with it by a narrow strait. This was a retrograde step even from Herodotus, who had described it justly as an inland sea. Asia, thus wanting Tibet, China, the greater part of Tartary, and all Siberia, possessed little above a third part of its real dimensions.

The Romans did not, by their conquests, obtain any accession to the knowledge of Asia. Before they reached Persia that country had been occupied by the Parthians, a brave northern people, the attempts to subdue whom were not only fruitless but most disastrous. But the boundless wealth accumulated in the imperial capital from the spoils of conquered nations, brought all sorts of commodities, however distant the place of their production, and however high their prices, to its markets. The *Serica vestis* (silk), then first introduced, became for some time quite the rage, and was readily paid for at its weight in gold. The fragrant malabathrum (betel, or tea), and the ornamented vessels named murrhina (probably porcelain), brought also vast prices. The merchants of Alexandria and Byzantium were thus impelled not only to embark large capitals but to brave hardship and danger in reaching the remote extremities of the continent where these commodities were produced.

Of the maritime route, Arrian, a merchant of Alexandria, has given a detailed and correct account, supposing it to be written in the first century. He describes it as extending along Persia, Arabia, and India, as far as Nelisuram (Nelkunda) on the coast of Malabar. The Greek navi-

gators had not then proceeded farther east, but found in that port supplies of the important articles of silk and malabathrum. This trade was carried on by ships that steered directly across the Indian Ocean from the Straits of Bab-el-Mandeb, by the route first discovered by Hippalus. Of the more easterly coasts, Arrian gives only hearsay accounts, becoming gradually fainter and more fabulous; but he distinctly indicates Masulipatam and the mouth of the Ganges, with the exquisitely fine cottons there fabricated. Even beyond this limit, he mentions Chryse or the golden isle (Sumatra or Borneo). Thinae is noticed, but in a manner still more confused than by Eratosthenes. But he gives a curious account of the collection of the leaves of malabathrum by a people, the form of whose visage shows them to be Tartars or Chinese, and of the manner in which they were picked, dried, and curled. Vossius, Vincent, and most other writers, conceive this to be the betel. Mr. Murray, however, has endeavoured to show that this last, being only used for wrapping the areca nut, must for that purpose be used fresh, and would be destroyed by the above processes; that it cannot consequently be, and is not, an object of trade, though the areca is; and that the malabathrum alluded to was, therefore, most probably tea. The ancient accounts, however, give no distinct intimation how the article was used, nor any reason to think, supposing it to be tea, that it was by drinking the infusion, but rather, in some form, as an object of scent. (Arrian, *Periplus Maris Erythrei*, in Hudson. *Geog. Græc. Minor*, tom. ii. Vincent on the *Periplus*, 4to, 1805. Murray, *Historic. and Descript. Account of China*, Edinb. 1836.)

About a century after, Ptolemy published his elaborate system of geography, which shows a very remarkable extension of knowledge in regard to Asia. He delineates, though rudely, a very large extent of coast from the mouth of the Ganges to Cattigara, on the coast of the Sinae; chiefly from a pretty detailed route of his predecessor Marinus, partly furnished by Alexander, a mariner, who, from his name, was probably a Greek. His statement that it reached 1,300 m. SE., and then again about as much NE., could only consist with a voyage from the head of the Bay of Bengal to China. Sada, the point where he turned north, must be at or near Singapore. Thence he described a coasting voyage of 350 m., when he 'crossed the sea' (evidently the broad mouth of the Gulf of Siam), and reached what he terms the Golden Chersonese, a name very naturally suggested by the rich mines on the opposite coast of Borneo. Thence he had twenty days' coasting sail (along Cochin China and Tonquin); finally, a course partly south, but more east, led to Cattigara, which must thus have been on the southern coast of China, and from its name probably Canton. Ptolemy, however, though he professedly made this the basis of his delineation, evidently adopted, and unskillfully combined with it, information from other quarters. In his tables, the Golden Chersonese, from its vast extension southward, and containing the names Malayo colon and coast of the Pirates, very clearly designates Malacca, conjoined probably with Sumatra, which is not separately mentioned.

The same geographer describes a caravan route, formed through Asia by the merchants of Byzantium. Proceeding due east, through Asia Minor and Persia, they made some circuits in order to include Hyrcania (Astrabad), Aria (Herat), and Margiana (Khorassan); they then reached Bactria (Balkh), which seems to have been the main centre of the inland trade of the continent. The

route, which had hitherto been through immense and level plains, led then over those lofty mountain ranges that lie to the north of India. After a laborious ascent, they reached a station called the Stone Tower, where the merchants destined for the remotest extremities of Asia united for mutual aid and defence; thence, a route of seven months, chequered by many perils and vicissitudes, brought them to Sera, the capital of Serica. That this country is China, is now so generally admitted that we need scarcely notice the theories which assign it to a less distant position, especially that of Gosselin, who, in profound ignorance of the localities, would make it Serinagur, in the north of India. The produce of silk, the character of the people, industrious, mild, pacific, timid, and shunning the intercourse of foreigners, all combine to exclude any other supposition. It is remarkable that northern China, reached by this route, is called Serica, while its southern coast is named that of the Sinae. It is, in fact, uncertain, whether the two were then under one government; at all events, the names were probably those used by the neighbouring nations, as, at present, the term China, the same with Tsina, or Sina, is received by us from the people of the oriental archipelago. Ptolemy's knowledge did not reach to the eastern ocean; and, unlike Eratosthenes, he did not assume its existence, but bounded Asia on that side, as well as on the north, by a vast expanse of 'unknown land.'

This communication opened by Rome during her highest prosperity was gradually lost amid the distractions and weakness of the empire, and when all the intermediate countries were occupied by the hostile Saracen power, Stephen of Byzantium, and the Geographer of Ravenna, about the 8th century, show only the most imperfect knowledge of the countries beyond Bactriana, including them under the vague term of India-Serica.

A new people now arose, who, impelled by ambition and religious zeal, explored and civilised a great portion of the world. The Arabs, under the impulse given by Mohammed, rushed from their deserts, and conquered an empire more extensive than that of Rome. They penetrated even into Scythia, which had remained impervious both to the Persians and Greeks, and established flourishing kingdoms on the banks of the Oxus and the Jaxartes. During the enlightened æra of the caliphs, particular attention was paid to geographical knowledge. A number of leading positions were determined by astronomical observation, a process to which the Greeks had been almost strangers: India was well known to them, and ere long became subject to Mohammedan princes. China was never even approached by conquest, but commerce conveyed some pretty accurate ideas respecting that country; indeed, in the ninth century, two Arab merchants, Wahab and Abusaid, visited it, and published an account, in some respects very accurate, and accordant with modern observation. They mention its great fertility and populousness; the production and general use of rice, silk, tea, and porcelain; the rigid watchfulness of the police; the general diffusion of reading, and the preference of written over spoken language. On the north, some imperfect notices were received of Siberia and the Arctic Ocean. This region excited intense interest from its being supposed to contain the castle of two enormous giants, Gog and Magog, the search after which impelled the caliphs to expeditions of discovery. After several fruitless efforts, one was dispatched with strict orders not to return without having discovered this castle. Under this impulse they

marched towards the Altai, and returned with a truly formidable description of the fortress, as surrounded by walls of iron, and with a gate fifty cubits high. This report was implicitly received, and the castle appears conspicuous in all the maps of the middle ages. (Edrisi, Geogr. Nubiens. Paris, 1819; Notices et Extraits des Manuscrits du Roi de France, tom. ii.; Anciennes Relations, &c. traduites par Renaudot. Paris, 1718.)

Europe meantime was buried in the deepest ignorance as to all that related to the eastern world. Attention, however, was at last powerfully attracted to it by the crusades. Some direct accounts were received, and lights were sought in Ptolemy and other ancients: the result was a very confused mass of notions, which are curiously exhibited by Sanudo, in the map prefixed to his narrative of these expeditions, entitled, '*Gesta Dei per Francos*.' The world is there represented as a great circular plain, in the centre of which stands Jerusalem. Sera is borrowed from Ptolemy; but India is placed partly beyond it, and, under the titles of Major, Minor, and Interior, is scattered through different and distant parts of Asia. The Indus, in the text, is made the boundary of that continent. To the north, Albania and Georgia stretch almost to the sea of darkness, and in the same quarter appears the castle of Gog and Magog.

Attention was about the same time forcibly drawn to another Asiatic region. The Mongol chief Jengis, and his descendants, established an empire of immense extent, comprising on one side China, and on the other Russia, which was long held under Tartar sway. Thence they marched through Poland into Hungary and Silesia. The Duke of that country, having ventured to encounter them, was defeated and slain. Circumstances deterred them from proceeding farther; but their numbers, ferocity, and conquests, struck Europe with terror. In hopes of averting future invasion, it was determined to send embassies from the Pope, as the chief of Christendom; and two monks, Carpini and Rubruquis, were successively employed. They travelled by long journeys, of many months, over the vast plains of Tartary to Karrakarum, a rude capital, situated far east in that region. They were tolerably well received, as oriental courts are fond of the attention and homage which missions imply; but the threatened invasion was prevented by quite different causes. Being probably the first who had penetrated into those remote regions, they communicated new ideas respecting their vast extent, and the countries situated both at their eastern and northern extremities.

About the same time that this intercourse with the east was opened, and partly in consequence of it, the spirit of industry and commerce revived among the maritime cities of Italy. Venice and Genoa had established factories and carried on trade, not only over all the Levant, but on the coast of the Black Sea. From this last quarter, two Venetian nobles of great enterprise, of the name of Polo, undertook to visit the court of a Tartar prince, descended from Jengis, with a view to dispose of some valuable commodities. Various vicissitudes led them on to Bokhara; and they were there induced to accompany a mission to Cambalu, the court of Kublay, named the Great Khan, who inherited the most valuable of Jengis's conquests in China and the neighbouring countries. Having returned to Venice, they again set out for the East, taking with them Marco, one of their sons, to whom we are indebted for a most interesting account of his and their travels. On their outward journey they passed through Balkh,

Kashgar, Khotun, Tangut, and other countries in the great table-land of Middle Asia, which we name Little Bucharra, and respecting which we have little better information than Marco communicated.

Cathay, as Northern China was then called, with Cambalu, its capital, the modern Pekin, completely dazzled the travellers. The walls forming a square, each side of which measured six miles—the lofty ornamented gates—the spacious streets—the immense palace, with its painted halls—the beautifully ornamented gardens—the pomp of the imperial festivals—all these objects, nearly on the same scale as now, far surpassed any magnificence of which Europe could then boast. Being well received, and even officially employed, Marco set out upon an extensive tour through the western provinces, visiting part of Tibet, and obtaining information respecting Mien (Ava). This was followed by a more interesting journey into Mangi, or Southern China, which not long before had formed a separate kingdom, but happened then, as now, to be subject to a power resident in the north. He describes it justly as more fruitful and populous than the region first visited. Its capital, Quinsai, or the Celestial City, is painted in glowing colours; its edifices, canals, ornamented bridges, spacious lake, and the palaces which embellished its shores.

Marco heard also of Xipangu, or Japan, as a rich insular empire, which the Great Khan had made a vain attempt to subdue. Returning by sea, the travellers touched at Tsiompa and Sumatra. They spent some time successively in Ceylon, Coromandel, and Malabar, and Marco gives a not unfaithful account of Indian manners and superstitions. Then sailing up the Persian Gulf, they proceeded from Ormuz to Trebisond, whence they returned to Venice, twenty-four years after their departure.

The great discoveries thus made were not neglected. In the beginning of the 14th century, Juan de Monte Corvino, a Minorite friar, undertook a religious mission into the east. He penetrated to Cambalu, where he was allowed to reside for a number of years, and made many converts; the city was even erected into a see, of which he was named archbishop. About the same time Pegoletti, an Italian merchant, traced the caravan route through Asia as far as Cambalu, and published his itinerary. Another Minorite friar, Oderic of Portenau, narrated a voyage made to India, the oriental archipelago, and China, returning by way of Tibet.

In the end of this century, the conquests and widely extended empire of Timur, with his victory over Bajazet the Turkish sultan, resounded throughout Asia, and in some degree through Europe. Henry III. of Castile sent two successive embassies to the court of the Tartar conqueror, the last in 1403, under Clavijo, who spent some weeks at Samarcand, and though he has not added much to geographical knowledge, he gave an interesting account of the court and policy of that monarch.

By these different means, a light, though somewhat dim, was thrown upon the farthest extremities of Asia; but it did not much avail the Italian republics, who were unable to reach its southern shores by sea, while the land route was too arduous and perilous to be much frequented. The period, however, was now at hand when the furthest extremities of Asia were to be the scene of European enterprise and adventure. In 1497, Vasco de Gama doubled the Cape of Good Hope, and reached the shores of India at Calicut. In the short space of twenty years the Portuguese, by a succession of victorious armaments, estab-

lished forts and settlements in Hindostan, the Malayan peninsula, and most of the islands of the archipelago, and even attempted them in China. Although this career could not be said to be one of discovery, almost all these countries being to a certain degree known, the hitherto doubtful accounts were authenticated, and they were surveyed with much greater precision. In the seventeenth century, a body of French missionaries, eminent for mathematical and astronomical knowledge, obtained permission to reside in Pekin, and were even employed in making a survey of China and the adjacent countries. The materials thus collected were transmitted to France, and arranged by D'Anville.

But though the south of Asia, including its finest regions, had thus become known, there remained north of the Altai mountains nearly a third part of the continent to which neither conquerors nor merchants had yet penetrated. Its discovery was reserved for Russia. After groaning for ages beneath the Tartar yoke, she emancipated herself, in the fifteenth century, under Joan Vassilievitch, and has ever since continued an active and increasing power. About the end of that century, having conquered the Cossacs, she had the address to engage that active and hardy race to explore and conquer for her the vast region of Siberia. They proceeded step by step, till, in 1689, fifty years after the commencement of the undertaking, Dimitrei Kopilof arrived at the Gulf of Ochotsk, a branch of the eastern ocean. Another division marched south-east upon the Amour, but there, having encountered the Chinese, were obliged to fall back. This progress, being along the southern part of the territory, did not bring them in contact with the coast forming the frozen boundary of the continent, which the English and Dutch were, in the meantime, exerting themselves to traverse as the nearest route to China. Middleton, Barentz, Hudson, and other navigators, engaged in this attempt; but none of them reached beyond the Gulf of Obi, a little east of Nova Zembla. About 1640, however, the Cossacs sent expeditions down the rivers Lena, Indigirka, Alaska, and Kolima, tracing their mouths, and the coasts between them. In 1646 they reached the extreme N.E. peninsula of Asia, inhabited by the Tchutchi; in 1648 Deschnew and another chief undertook to sail round it, and, though the accounts are imperfect, seem to have accomplished their object. Towards the end of the century, Behring discovered the most easterly cape of Asia; he and Tchirikoff afterwards made voyages to America. Cook, in his third voyage, sailed through these straits, and appeared to ascertain the disjunction of the two continents. It was still possible, however, that their coasts, by a vast circuit, might join each other; but this idea has been completely removed by the voyages of Wrangel on one coast, and of Beechey, Dease, and Simpson on the other. Cook, Perouse, and Broughton did also much to explore the eastern boundary of Asiatic Russia, and its connection with the large island of Jesso, with Japan, and China.

The entire coast of Asia has thus been explored, and in a great measure possessed, by Europeans. The great range of the Himmalah, better described by Ptolemy than in many modern maps, has been carefully surveyed, and its astonishing height ascertained. The expeditions of Turner and Moorcroft into Tibet, Elphinstone into Caubul, and Burnes into Bokhara, greatly extended our knowledge of these regions. The embassies from Russia to China crossed Mongolia and the desert of Gobi; while Pallas and Humboldt, from that side, gained much information respecting these central regions.

Our more recent English authorities are Abbott, Knight, and Atkinson, the last of whom spent many years of his life in extensive travels through Southern Siberia and Tartary, and in exploration of the immense territory recently annexed to the Russian empire, and known as the country of the Amoor. (Atkinson, Thos. W., *Travels in the regions of the Upper and Lower Amoor*. Lond. 1860.) In Central Asia, the three brothers Schlagintweit distinguished themselves as explorers, two of the brothers, Hermann and Robert, passing (in 1856) the Kuenlun mountains, a feat never before accomplished. Another foreign traveller, M. Arminius Vámbéry, accomplished, in 1863, the difficult journey from Teheran to Khiva, Bokhara, and Samarcand (Vámbéry, *Travels in Central Asia*, Lond. 1865.) Two Russian explorers, Capt. Valikhonof, and M. Veniukof, likewise added, very recently, to our knowledge of Central Asia. (Michell, J. and R., *The Russians in Central Asia*. Lond. 1865.) Nevertheless, there are still large portions of the immense continent which have remained a terra incognita, or nearly so, to the present day.

ASIA-MINOR. See NATOLIA.

ASIAGO, a town of Northern Italy, prov. Vicenza, 24 m. N. Vicenza. Pop. 5,140 in 1862. It is built on the summit of a hill, and is celebrated for its dye-works and fabrics of straw hats. The annual value of the produce of the latter exceeds 150,000*l*.

Asiago is the chief town of a district containing seven communes, the inhabitants of which speak a corrupt dialect of the German. They are supposed, by some antiquaries, to be descended from fugitive Cimbric, escaped from the great battle in which that people were totally overthrown by Marius, 101 years B.C. Marco Pezzo, an ecclesiastic, and a native of the district in question, published a curious dissertation on this subject, a third edition of which appeared at Verona in 1768.

ASOLA, a town of Northern Italy, on the Chiassa, 20 m. N. by W. Mantua. Pop. 5,467 in 1862. It is fortified, has a hospital, and a filature of silk. Its foundation dates from the remotest antiquity.

ASOLO, a town of Northern Italy, 19 m. WNW. Treviso. Pop. 4,720 in 1862. It is finely situated on a hill, and is encircled by walls flanked with towers. The town has an old cathedral, a public fountain, and some good houses. It is very ancient.

ASPE, a town of Spain, Valencia, 16 m. W. Alicante, in a mountainous country near the Tarroffa. Pop. 7,185 in 1857. There are quarries of fine marble in its vicinity.

ASPERG, a town of Württemberg, 3 m. NW. Ludwigsburg. Pop. 1,858 in 1861. Its church has some remarkable antiquities. At a little distance to the N. is the fort of Hohen-Asperg, on a steep rock, 1,105 feet above the level of the sea. It is at present used as a prison.

ASPERN, a small village of the arch-duchy of Austria, on the left bank of the Danube, opposite the island of Lobau, about 2 m. below Vienna. Pop. 730 in 1858. This and the neighbouring village of Esling were, in 1809, the scene of a tremendous conflict between the grand French army commanded by Napoleon, and the Austrians under the archduke Charles. After two days' (21st and 22d May) continuous fighting, with vast loss on both sides, Napoleon was obliged to withdraw his troops from the field, and take refuge in the island of Lobau.

ASPET, a town of France, dep. Haute Garonne, cap. cant. 8 m. SE. St. Gaudens. Pop. 2,457 in 1861. The town has manufactures of nails, combs, and boxwood articles.

ANSAM, an inland territory of India beyond the Ganges, a dependency of the British empire,

forming part of the E. frontier of our Indian possessions. It is included in the valley of the Brahmaputra, between $25^{\circ} 50'$, and $28^{\circ} 10'$ N. lat., and 90° to $97^{\circ} 35'$ E. long.; having N. the Himalaya mountains, which separate it from Bhootan and Tibet; E. Tibet; S. the Naga and Garrows mountains, which divide it from the Birman and Manipoor territories; and W. Bengal: length, E. to W. about 460 m.; area, 18,200 sq. m. Estimated pop. 700,000.

The general aspect of Assam is that of fine and fertile lowlands, inclosed by ranges of undulating hills, and these again by loftier ones, the surface of which is mostly covered by forests, but their summits, in winter, are often covered with snow. The geology of this region has not been much studied; the mountains which form its S. boundary, which increase in height as they proceed eastward, consist in part of a hard grey granular slate; and on the inferior heights there are many scattered boulders of granite. Shell limestone is found in large quantity near Dhurnpoor.

The most remarkable natural feature of Assam is the number of rivers, in which it surpasses every other country of equal extent. Besides the Brahmaputra, which runs through its centre in a SW. direction, it has thirty-four rivers flowing from its N. and twenty-four from its S. mountains, all of which are navigable for trading vessels of some size.

In Upper Assam, the Brahmaputra divides into two streams, inclosing the considerable island of Dehing, one of the most fertile tracts in the country, having an area of 1,800 sq. m., and a pop. of 25,000. The inundations which prevail during a part of the year (see BRAHMAPUTRA), and give Assam the appearance of an extensive lake, and the great subsequent heats, render the climate most unwholesome and pestiferous both to Europeans and natives. The chief mineral products are gold dust, in the sands of many of the rivers, the collection of which employs a great number of people, the produce of the Dhunseroe river alone being estimated at 180,000 rup. a year; silver; iron; salt, chiefly from springs in Upper Assam; lead, coal, and petroleum. Throughout the whole length of the Assam valley, a forest seven or eight miles wide extends along the N. border, chiefly of a tropical character; but at the foot of the hill ranges, chestnut, alder, &c., are intermixed with the other trees. The timber is not remarkably fine, nor any of the trees large, excepting the caoutchouc (*Ficus elastica*, Roxburgh), which grows solitary, sometimes to the height of 100 ft. and covering with its branches an area of 600 sq. ft. Tea, of a genuine kind, has been discovered in the region inhabited by the Singpho tribes, where it grows over a large tract of the peculiar yellowish soil so characteristically adapted to it. About the year 1830, it was brought to the London market, both black and green, and fetched a high price. Since then its cultivation has been much extended, and it has now become one of the most promising agricultural products of India. The exports in 1863 were of the value of 222,035*l.*; in the same year there were 160 tea plantations, extending over an area of nearly 14,000 acres, and employing 17,000 daily labourers. Assam is very favourable to the production of silk, which is of a very superior quality, but mostly made by wild insects, of which there are five different species. A beautiful deep dye is obtained from *room*, a species of *Ruellia*, *Acanthaceae*; and a powerful poison is procured from some plant by the Assamese, into which they dip their arrows. The hills along the bed of the river are very steep, and covered with dense jungle nearly to their summits. There are no

tigers, but many bears, monkeys, squirrels, &c. The chief object of culture is rice, and next to this mustard seed; wheat, rye, barley, and millet are rare; many sorts of pulse, the banana, orange, and other fruits, black pepper, ginger, turmeric, capsicum, onions, and garlic are cultivated, and cotton by the hill tribes. Cattle and poultry are few; the buffalo is most used in agriculture. Villages rare, and the scattered huts mostly built of bamboo. There is some small trade with Bhootan and Tibet: several remarkable roads or causeways intersect Assam, the origin of which is not known, but they appear to have been constructed at a distant period; one of these extends from Cooch Bahar in Bengal to the extreme E. limits of this country. The land is tilled by *pykes*, or natives of four different classes, who are obliged, for a portion of the year, to give their services for the benefit of the rajah granting them their land.

The manufactures are those of silk velvet and cotton stuffs, and are carried on by the women: silks are in general use for clothing, and similar to those of China. The trade is mostly with Bengal, the imports from which are broadcloths, muslins, chintzes, &c., salt, opium, liquor, glass, crockery, tobacco, betel, and rice; the exports being gold dust, ivory, silver, amber, musk, dacs, Birmese cloths, and a few Chinese cloths; in 1833, cotton was added for the first time to the exports from Assam, and the cultivation of this plant has, since then, largely increased, owing to the dearth occasioned by the civil war in America. Justice is administered by the heads of tribes, and their punishments are at times of the most barbarous description. The religion is that of Brahma, introduced in the seventeenth century; before that period, the god Chang (probably the same as Boodh) was adored: the priests have great influence, and are intriguing and vicious. The people are active, hardy, and enterprising, but barbarous, revengeful, and deceitful; they consist of numerous different tribes, as the Bor-Khamti, Singphos, Mishmees, &c., each under a separate chieftain. Principal food rice, but they also eat serpents, rats, locusts, dogs' flesh, &c.; they use a Hindoostanee dialect, the language of Assam being nearly extinct. Some of the tribes go quite naked; others have a covering round their middle, and over the head and shoulders: they wear moustaches, but shave the scalp and chin. Their habitations, even in the principal towns, are mere huts, with a clay floor and conical roof of straw or bamboo. In every respect this country is in a state of abject barbarism. Little is known of their history; in 1638, they invaded Bengal, but were repulsed by some of Shah Jehann's officers, and lost some of their own frontier provinces. A general of Aurungzebe subsequently led an army into Assam, which he lost before Gergong during the rainy season by disease and the resistance of the enemy. Assam is one of the provinces ceded to the British by the Birmese in 1826. Principal towns Cherghong, Joorhath, and Yourhatti.

ASSCHE, a town of Belgium, prov. South Brabant, about half way between Brussels and Denendermonde. Pop. 5,917 in 1856. It has some trade in hops, flax, and corn.

ASSEERGHUR, a town and fortress of Hindostan, presid. Bombay, prov. Candeish, cap. distr. belonging chiefly to Sindia's dom., on a detached hill of the Sautpoorah Range, 15 m. N. Boorhanpoor, and 215 m. ENE. Surat. Lat. $21^{\circ} 28'$ N., long. $76^{\circ} 23'$ E. Pop. about 2,000. The town, straggling and irregular, with one good bazaar, stands at the base of the rocky hill on which the fortress is placed. The summit of this hill is about 1,100 yds. from E. to W., by 600 yds. wide; it is

inclosed by a wall, and surrounded by a precipice from 80 to 100 ft. in perpendicular height, so well scarp'd as to leave no means of ascent except at two spots, both of which are strongly fortified. A second line of works of excellent masonry protects it on the SW. side, on the principal road to the fort; and a third line embraces the hill immediately above the town. It is besides protected by ravines and deep hollows on every side, and possesses the rare advantage of plenty of water. Magazines and a sally port, easily blocked up by the garrison, are excavated within the rock. The approach from the N. is over a wild tract infested with tigers and wolves. Asseerghur is surrounded on every side except the SW. by Sindia's dom., and is the nearest place in the Bombay presid. to Bengal. It was taken in 1803 and 1819 by the British, who have held it since the last-mentioned year.

ASSENDELFT, a village of the Netherlands, prov. Holland, 7 m. NNE. Harlem. Pop. 2,980 in 1861.

ASSENEDE, a town of Belgium, prov. East Flanders, 13 m. N. Ghent. Pop. 4,200 in 1856. It has manufactures of wool and cotton, dye works, breweries, and soap works.

ASSENHEIM, a town of the G. duchy Hesse-Darmstadt, at the confluence of the Nidda and the Wetter, 18 m. NE. Frankfort on the Maine. Pop. 942 in 1861. A good deal of wine is produced in its territory, and it has considerable coal mines.

ASSENS, a sea-port town of Denmark, W. coast of the island of Funen, on the channel called the Little Belt, 22 m. WSW. Odensee, lat. 55° 17' N., long. 9° 54' E. Pop. 3,581 in 1860. It has distilleries, and a considerable trade in corn. It is the usual point of departure for persons leaving Funen for Schleswig.

ASSISI, a town of central Italy, 18 m. ESE. Perugia. Pop. 13,872 in 1861. It is situated on a mountain, is the seat of a bishopric, has a cathedral and several other churches, some of which are ornamented with fine pictures. Metastasio was born in this town.

ASSUMPTION, or **ASUNCION**, a city of S. America, cap. of Paraguay, finely situated on an eminence on the left bank of the great navigable river of that name, lat. 23° 16' S., long. 57° 37' W. Pop. estim. at 12,000. It was founded in 1535, and from its advantageous situation became of sufficient importance to be made a bishopric in 1547. It is miserably built, the streets being unpaved, and most of the houses no better than huts. The only good buildings are the convents. The country round is comparatively well cultivated and populous. Assumption is the centre of a considerable trade in hides, tobacco, timber, *matte*, or Paraguay tea, and wax. (Robertson's Paraguay, i. 288.)

ASSUMPTION, a small island of the Marianne archipelago, Pacific Ocean, lat. 19° 45' N., long. 145° 54' E. It is cone-shaped, and consists almost entirely of lava and other volcanic products. It produces a few cocoa nut trees, and is described by Perouse as a most wretched place.

ASSUS, an ancient city of Asia Minor, in Troas, near the sea, whose ruins occupy a site contiguous to the modern and inconsiderable village of Beiram, 12 m. E. Cape Baba (an. *Nectum*), 35 m. WSW. Mount Ida, and nearly opposite to Mollivo in Mytilene. It is said to have been founded by a colony from Lesbos, and was famous in the history of Grecian philosophy from its having been the birth-place of Cleanthes the stoic, and for a while the residence of Aristotle. Colonel Leake says of its ruins, that 'they are extremely curious. There is a theatre in very perfect preservation; and the

remains of several temples lying in confused heaps on the ground; an inscription upon an architrave on one of these buildings shows that it was dedicated to Augustus, but some figures in low relief on another architrave appear to be in a much more ancient style of art, and they are sculptured on the hard granite of Mount Ida, which forms the materials of several of the buildings. On the W. side of the city the remains of the walls and towers, with a gate, are in complete preservation; and without the walls is seen the cemetery, with numerous sarcophagi still standing in their places, and an ancient causeway leading through them to the gate. Some of these sarcophagi are of gigantic dimensions. The whole gives, perhaps, the most perfect idea of a Greek city that anywhere exists.' (Leake's Asia Minor, p. 128.)

ASSYE, a town of Hindostan, prov. Berar, in the Nizam's dom., 28 m. N. Jaulna. It is celebrated as the spot where the Duke of Wellington commenced his career of victory. On the 23rd of September, 1803, the Duke, then General Wellesley, with 4,500 men (of whom only 2,000 were British), completely defeated the combined forces of Dowlat Row Sindia and the Nagpore rajah, amounting to 30,000 men. The confederates fled from the field, leaving about 1,200 slain, ninety-eight pieces of cannon, seven standards, their whole camp equipment, and much ammunition. The British-Indian army lost 1,566 men, killed and wounded.

ASTAFORT, a town of France, dep. Lot-et-Garonne, cap. cant. on the Gers, 10 m. S. Agen. Pop. 2,484 in 1861. The town has linen manufactures.

ASTERABAD, or **ASTRABAD**, a city of Persia, cap. of a small prov. of the same name, on the Gourgane, about 12 m. from where it falls into the SE. angle of the Caspian Sea, denominated the Bay of Asterabad, lat. 36° 50' N., long. 53° 23' E. Mr. Fraser says that it contains from 2,000 to 3,000 houses, so that its population may be estimated at from 12,000 to 18,000. It is surrounded by a low mud wall, about 3½ m. in circuit. Formerly it was much more extensive than at present; a great part of it being in ruins, and there being, also, within the wall, extensive gardens and numerous trees. Houses, chiefly of wood, are said to be picturesque and pleasant, and are frequently furnished with verandahs resting on wooden pillars; their roofs project far beyond their walls. The streets are well paved and clean, and are furnished with drains to carry off the water, which in most other Persian cities is allowed to stagnate in pools. None of the public or private buildings deserve notice. The palace of the prince, or governor, is a miserable fabric. The bazaars, or public markets, are tolerably extensive; but they contain little besides the articles required for the consumption of the place. Asterabad, though in fact a port, has but little trade. It is said to be very unhealthy. (Fraser's Caspian Sea, p. 7.)

ASTI (an. *Asta* or *Hasta Pompeia*), a city of Northern Italy, prov. Alexandria, on the Bourbo, near its confluence with the Tanaro, 28 m. ESE. Turin, on the railway from Turin to Genoa. Pop. 28,587 in 1861. The town is surrounded by old walls in a ruinous condition, and was famous for its 100 towers, of which hardly thirty now remain. Streets narrow; but it is in general pretty well built. The cathedral, a modern building, occupies the site of a temple of Diana, and it has, besides, numerous parish churches and palaces. Asti is the seat of a bishopric, of a court of original jurisdiction, and a royal college, and has several silk filatures, with manufactures of silk and stuffs. The vineyards in its vicinity furnish the best wines of Piedmont; and it carries on a considerable trade

in them, in raw and manufactured silks, and other articles. One of the greatest poets of modern Italy, and, indeed, of modern Europe, Victor Alfieri, descended from an ancient and noble family of Asti, was born here on the 17th January, 1749.

Asti is a very ancient city. In 1154 it was burned down by the Emperor Frederic Barbarossa, but it had been previously evacuated by the inhabitants. It soon recovered its ancient grandeur, and in the thirteenth century was able to contend with the forces of Charles I. of Naples. In the fourteenth century it formed part of the territory of the lords of Milan, and was transferred, in 1387, as the dowry of a Milanese princess to the Duke of Orleans, brother to Charles VI. of France. It remained under the dominion of the French till 1529, when it was ceded by the Treaty of Cambray to the Emperor Charles V. The latter made it over to one of his female relations, who married a prince of the House of Savoy.

ASTIER (ST.), a town of France, dep. Dordogne, on the lake, 10 m. WSW. Périgueux. Pop. 2,879 in 1861. In the neighbourhood is a mineral source.

ASTORGA, a town of Spain, prov. Leon, 30 m. W. Leon, in an extensive and fertile plain near the banks of the Tuerio, lat. $42^{\circ} 27' N.$, long. $6^{\circ} 10' W.$ Pop. 4,810 in 1857. The town is very ancient, and was formerly fortified by a wall and a castle; but both of these have been allowed to go to decay. It is the seat of a bishop, has a Gothic cathedral, celebrated for its high altar, four parish churches, and some convents.

ASTRAKHAN, an extensive gov. of Russia in Europe, lying along the NW. shore of the Caspian Sea, and divided into two nearly equal portions by the Wolga. Area 83,000 sq. m. Pop. 264,400 in 1846, and 477,492 in 1858. Astrakhan is one of the least valuable provs. in the empire. With the exception of the Delta of the Wolga, and a narrow strip of land along the banks of that river, it consists almost entirely of two vast steppes, one on each side the river, in part occupied with sand hills, but mostly low and flat; the soil consisting of mud and sand, strongly impregnated with salt, interspersed with saline lakes, and partly unsuited to cultivation. In consequence agriculture is neglected; but in the Delta of the Wolga, gardening is practised with some success, and superior fruits are raised. In summer the heats are frequently excessive, while in winter the frosts are equally severe. Horses are of the beautiful Calmuck breed, and some of the wandering tribes have great numbers of camels. That fertility which nature has denied to the land, she has given to the water. The fishery forms the principal source of the wealth of this government, and is carried on upon a great scale on the Wolga, which teems with fish, and along the shores of the Caspian. Sturgeon, carp, and seal, but particularly the first, are the fish most commonly taken. The annual value of the sturgeon fishery is estimated at from 2,000,000 to 3,000,000 roubles; and above 30,000 barrels of caviar, prepared from the roes of the sturgeon, have been exported from Astrakhan in a single year. Though few in number, the inhabitants consist of a great variety of races. They are mostly nomades; and, according to the official statements, there are, in the entire government, only 20,098 individuals subject to the capitation tax. With the exception of some some fabrics in Astrakhan, manufacturing industry is unknown.

ASTRAKHAN, a city of Russia, in the cap. of the above government, on a small island in the Wolga, on the left bank of the main stream, about 30 m. from its embouchure, lat. $46^{\circ} 20' 53'' N.$, long. $47^{\circ} 55'$

E. Pop. 44,790 in 1858. This 'Alexandria of the Scythian Nile, as it has been sometimes called, stands on ground elevated sufficiently to be above the reach of the inundations. It consists of three parts:—the *Kremlin*, or citadel; the *Bielogorod* (white town); and the *Slobodes*, or suburbs. In the first, or nucleus of the city, is the cathedral, a large square edifice surmounted by five domes, the convent of the Trinity, and the archiepiscopal palace; in the second are the buildings for the government functionaries, including an admiralty board, having charge of the flotilla kept on the Caspian, the gymnasium, and the bazaars, or factories for the use of the merchants. The houses in the suburbs, where the bulk of the population resides, are of wood; whereas in the other two divisions they are of stone. Streets crooked, and mostly without pavement. It is the seat of an Armenian as well as of a Greek archbishop, and it has also Mohammedan, Hindoo, and Protestant places of worship. Exclusive of the gymnasium, there is an ecclesiastical academy, a district grammar school, and some inferior schools. There are several manufacturing establishments for the production of cottons, woollens, and silks; with distilleries, tanneries, and soap-works. Astrakhan is the centre of the fisheries carried on in the Wolga and Caspian. Its burgesses had formerly a monopoly of the fishery in the Wolga; but since 1803 they have been free to every one. During the season, the fisheries employ immense numbers of people and boats. The population of the city is then much augmented, and it presents an animated, lively scene. It is the grand fishing mart for all the interior of the empire; it is also the great entrepôt of the trade with Persia and the countries to the east of the Caspian, sending to them leather, furs, iron, copper and tallow, and getting back silk and cotton goods, raw silk, cotton twist, drugs, carpets, &c. The exports to the countries in question amount, on the average, to two millions roubles per annum, and the imports to rather more than one million, but they have sometimes been more than double these amounts. This trade is principally carried on by Armenian merchants.

ASTURIAS, an ancient principality in the N. of Spain, now the prov. of Oviedo, lying along the Bay of Biscay, between $49^{\circ} 30'$ and $70^{\circ} 10' W.$ long. having E. the Castilian prov. of Santander, S. Leon, and W. Galicia. Area 3,686 sq. m. Pop. 434,635 in 1846, and 524,529 according to the census of 1857. The surface of the province is much diversified. Its S. border consists of a chain of high mountains, which gradually diminish in height as they approach the coast, along which there are extensive tracts of pretty level land. It is extremely well watered, being intersected by the Nalon, Navia, and other rivers, and has several sea-ports, as Gijon, Rivadesella, Cudillero, and Aviles. The climate along the coast is mild, but in the mountainous parts it is frequently severe, and it is distinguished by its humidity. But little wheat is raised, the inhabitants subsisting chiefly on maize, and a species of corn called *escanda*. Hazel nuts are scarce; but chestnuts are very plentiful, and of excellent quality. The vine is cultivated in some parts; but the produce of wine is not sufficient for the consumption, the deficiency being supplied with cider, which is partly also exported. Oranges and lemons are produced in a few places, and great numbers of cucumbers. Besides the chestnut, the wood of which, as well as the fruit, is most valuable, the mountains are covered with forests of oak, beech, and plane. There is a considerable exportation of cattle and horses from this prov. to the interior. Iron, copper, lead, antimony, jet,

amber, marble, and mill-stones, are found in different places. Coal is also found, and Miñano says that 90,000 quintals are shipped for other parts of the peninsula. With the exception of hardware, with many articles of which this prov. supplies the rest of Spain, its manufactures are in a very backward state. The bulk of the inhabitants are exceedingly moderate in their way of living. They eat little flesh, drink little wine; their usual diet is Indian corn, with beans, pease, chestnuts, apples, pears, melons, and cucumbers; and even their bread, made of Indian corn, has neither barm nor leaven, but is unfermented. The principal towns are Orviedo, Gijon, Aviles and Navia.

Asturias may be said to be the cradle of Spanish independence. The Saracens, who had overrun the rest of the country, were unable to overcome the Christians, who had taken refuge in the fastnesses of its mountains. Pelayo was proclaimed king in 718; and his successors, having gradually extended their conquests, took, about two centuries after, the title of Kings of Leo. In 1888 the prov. was erected into a principality, and became the appanage of the heir presumptive to the throne, who has since been styled Prince of Asturias. Several peculiar privileges have been conferred on this province on account of the services it has rendered to the monarchy.

ASZOD, a market town of Hungary, co. Pesth, on the Galga, 28 m. N.E. Pesth, in a fertile valley. Pop. 2,218 in 1857. The inhabitants are mostly Protestants. Here is a large and handsome country-seat belonging to the Barons Podmaniczky, with a fine collection of coins and natural curiosities. The town has manufactures of blue and green dyed sheep-skins, for which there is a considerable demand.

ATACAMA, an extensive district of Bolivia, or Upper Peru, lying along the Pacific Ocean, between the river Lao on the N., and the Salado on the S., or between $21\frac{1}{2}^{\circ}$ and $25\frac{3}{4}^{\circ}$ S. lat. Towards its N. extremity there are some fertile valleys, but by far the greater part of its surface is an absolute desert covered with dark brown or black moveable sand. The arid soil of this portion is never refreshed with rain, and, except where a very few rivers descend from the Andes, it is both uninhabited and uninhabitable. Cobija, or Port la Mar, is built at the mouth of one of these rivers.

ATESSA, a town of Southern Italy, prov. Chiesi, 14 m. W. Vasto d'Ammona. Pop. 10,729 in 1861. The town is situated on a hill, has a fine collegiate church, with parish churches, convents, a hospital, and three *monts de piété*. The poet Cardone was a native of Atezza.

ATFIEH, a town of Egypt, cap. prov. same name, near the right bank of the Nile, 42 m. SSE. Cairo. Pop. estim. at 4,000. It is supposed to be on or near the site of the ancient *Aphroditopolis*.

ATH, a town of Belgium, prov. Hainault, on the Dender, and on the railway from Tournay to Brussels, 15 m. N. by W. Mons. Pop. 9,200 in 1856. The town was fortified by Vauban, and the works have been materially improved and strengthened since 1815. It is well built. Principal public buildings, the arsenal, town-house, and the church of St. Julian: the spire of the latter, 150 ft. in height, was destroyed by lightning in 1817, and has not been rebuilt. Ath has a college, founded in 1416; a school of design, and an orphan hospital. It has manufactures of linen, woollen, and cotton-stuffs, hats and gloves; establishments for bleaching and dyeing, with oil mills, soap-works, breweries and distilleries. It is an entrepôt for the trade in coal, and for the produce of the surrounding country.

ATHAPESCOW, or ATHABASCO, an extensive lake of N. America, being about 200 m. in length, and from 14 to 15 in average width. Fort Chipewyan, at its SW. extremity, is in lat. $58^{\circ} 42'$ N., long. $111^{\circ} 18'$ W. It receives the Athapescow river; and the Slave river flows from it into Great Slave Lake, lying about 170 m. NE. Its N. shore is high and rocky, whence it is sometimes called the lake of the hills.

ATHBOY, an incl. town of Ireland, co. Meath, prov. Leinster, on a small branch of the Boyne, from which it is supposed to have its name, signifying 'the yellow ford,' 81 m. NW. by W. Dublin, on a branch line of the railway from Dublin to Navan. Pop. 1,959 in 1831, and 2,241 in 1861. The town, situated in a level and fertile district, consists of one long street; it has a modern church, with an ancient tower; a large and elegant R. Cath. chapel, in the ancient English style, with a steeple 90 ft. high; a dispensary; schools, partly endowed and partly private, in which about 400 pupils are educated; and almshouses, in which twelve poor widows are supported. Fuel is supplied in plenty from an extensive neighbouring bog. The Hill of Ward, near the town, 400 ft. high, is a striking object in this flat country. The town, which is a bor. by prescription, received a charter from Hen. IV., confirming and extending its privileges, which were confirmed and further extended by subsequent monarchs, particularly by Elizabeth, who conferred on it the right of sending 2 ms. to the Irish Parl.; and by James I., by whom the municipal limits were fixed at a mile beyond the town in every direction, to which was added a right to hold a court of record. But these, and some manorial powers, have fallen into desuetude since the Union, when the bor. lost its right to return ms. to Parl. Petty sessions are held here on alternate Thursdays. The market, held in the market-house on Thursdays, is well supplied with corn and provisions. The fairs are numerous; the principal being those held on the Thursday before 28 Jan., on 4 May, 4 Aug., and 7 Nov.; the others, held on 3 and 10 March, 22 and 30 June, and on 22 and 29 Sept., are less important.

ATHERLY, a decayed town of Ireland, co. Galway, 14 m. E. Galway. Pop. 1,319 in 1831, and 1,283 in 1861. The town was formerly of some importance, having been enclosed by walls, and possessed of a university. It returned a member to the Irish Parl. but was disfranchised at the Union.

ATHENS, one of the most famous cities of antiquity, the chosen seat of literature, philosophy, and the fine arts, and the capital of the new kingdom of Greece, on the W. side of Attica, about 4 m. from the Gulf of Ægina, lat. $37^{\circ} 58' 1''$ N., long. $23^{\circ} 43' 54''$ E. Pop. 41,298 in 1862. The town is built on the W. side of an abrupt and rocky eminence rising out of an extensive plain terminated N. by mountains Pentelicus and Parnes, NE. by Mount Anchemus, E. by Mount Hymettus, SW. by the Hill Museum, now called Philopappus, and W. by Lycabettus. During the prolonged conflicts of the revolutionary war (1820-27) the town was laid in ruins; and when the seat of government was transferred hither in 1834, it was with the greatest difficulty that buildings could be fitted up for the members of the regency, the diplomatic body, and their offices. It is, however, again gradually rising into importance. Several streets have been opened, levelled, and widened, the principal being Hermes, or Mercury Street, Æolus Street, Minerva Street, and the Bazar or Market Street. The first of these traverses the town, which it divides into two equal parts, parallel with the Acropolis, and is crossed at right angles by that of Æolus, which

terminates close under the Acropolis. Minerva Street, the broadest of all, runs in nearly the same direction as Æolus Street. Bazar or Market Street, so called from its containing the shops for the supply of the various articles required by the population, is about half a mile in length. The houses, built in the modern German style, are generally supplied with balconies, and contain shops and coffee-houses on the lower story. The other streets hardly deserve the name, being mere narrow lanes, displaying a marked contempt for regularity. The public buildings comprise the royal palace, the university, the hall for the national representatives, a theatre, a mint, an observatory, barracks, hospitals, with a cathedral, and several churches, including an English chapel. The palace is a large quadrangular edifice at the foot of Mount Lycabettus. The university, the finest of the modern buildings, established on the German model, has a pretty extensive library, a numerous corps of professors and teachers, and about two hundred pupils. Athens has also a well-attended gymnasium, in which the government has founded some exhibitions with various inferior academies and schools, and a botanic garden. The population is of a more heterogeneous description than that of any other city of its size. European shops invite purchasers by the side of Eastern bazars; coffee-houses and billiard rooms, and French and German *restaurants*, are opened all over the city. The mixture of its population bears a striking analogy to the extraordinary contrasts presented by the city itself. 'The same half acre of ground,' says a recent traveller, 'often contains two or three remaining columns of an ancient portico, a small Christian chapel of the middle ages, a Venetian watch-tower, a Turkish mosque, with its accompanying cypresses and palm-trees, and a modern fashionable-looking residence; thus, as it were, distinctly exhibiting the different phases of the varied existence of this celebrated city.' Great efforts have been made to secure the health of the city, by taking down the walls by which it had been surrounded by the Turks; by cleansing and repairing the ancient sewers; and draining the marshes formed by the overflows of the Cephissus, the exhalations of which were extremely noxious. A good road connects the city with its harbour at the Piræus. Here, also, several large houses have been built, and some good streets, flanked by respectable dwellings, have been completed. A large custom-house, a quay, and a lazaretto, have been erected, and though trade cannot be said to flourish, the town has rather a bustling appearance.

Athens stands on a spot rich in remains of antiquity; and it is reasonable to suppose that its present tranquillity will prove favourable to the better illustration of monuments and places already identified, and that the excavations everywhere forming for laying the foundations of new buildings will lead to many valuable discoveries.

The ancient city of Athens—

"The eye of Greece, mother of arts
And eloquence, native to famous wits,
Or hospitable—"

considerably exceeded in extent the modern town; and, unlike the latter, which, as already observed, spreads into the plain chiefly on the W. and SW., encircled the Acropolis. It was enclosed in a sort of peninsula formed by the confluence of the Cephissus and Illyssus, the former of which flows due S. past the W. side of the city; the latter, which rises a few miles to the NE. of the city, runs past it in a SW. direction. At the time when Athens had

attained its greatest magnitude, it was encompassed by a wall surmounted at intervals by strongly fortified towers. The plan of this wall, many parts of which still remain, exhibits the form of an irregular oblong, having at its N. extremity the gate of Acharnæ, on the S. the Itonian gate and the fountain Callirhoë, on the W. the gate of Diochares, and on the E. the Peiraic gate. Beginning with the gate of Acharnæ on the north, the wall ran eastward near the base of Anchesmus, and past the Diomeian gate to the gate of Diochares, which led to the Lyceum; it then continued parallel to the Illyssus on the western side of that stream to the fountain Callirhoë or Enneacrunos; and thence to the hill of the Museum, which it crossed, comprehending the still existing monument of Philopappus within its circuit. Its course from the Museum was north, taking in the chief part of the Pnyx and Mount Lycabettus, to the Dipylum, which led to the outer Ceramicus or great burying ground, and to the Academia or School of Plato in the depression between the Pnyx and Lycabettus. Athens had three great harbours, the Piræus, Munychia, and Phalerum. These ports formed a separate city larger than Athens itself, and were connected with it by means of the long walls (*μακρά τείχη*). The harbour of the Piræus was a spacious basin embraced by two arms of rocky land which formed gigantic natural piers. Even now it is considered a safe port, and in former times it constituted at once the harbour, dockyard, and arsenal of Athens.

Athens, at its most flourishing period, contained about 10,000 houses (Xen. Mem. iii. 6, 14), which were for the most part so small and mean in appearance that, according to Dicaearchus, it was to the public edifices alone that it owed its attractions. The inhabitants were comprised under three classes, citizens (*πολιται*), sojourners (*αετοικοι*), and slaves (*δουλοι*); of these the slaves greatly preponderated, though it is difficult to make an accurate computation of their numbers. Indeed, the whole question as to the population of Athens is involved in great obscurity. Hume, Letronne, Boeckh, Leake, Clinton, and others, have in our own times directed their efforts towards its elucidation, and have supported their reasonings with great learning and ingenuity, though with little unanimity or success; and the difficulties that surround the subject, from the vagueness, inaccuracy, and discrepancy of the data, are so great as almost to preclude the possibility of arriving at anything like a satisfactory conclusion. Boeckh has estimated the population of the city and its ports at 180,000; Clinton at 160,000; and Leake at 116,000. The statement of Athenæus that the number of slaves in Athens (or Attica) was 400,000 is universally admitted to be grossly exaggerated. The commercial operations of Athens embraced every known country and commodity. 'All the products of foreign countries,' says Boeckh, 'came to Athens, and articles which, in other places, could hardly be obtained singly, were collected together at the Piræus. Besides the corn, the costly wines, iron, brass, and other objects of commerce which came from all the regions of the Mediterranean, they imported, from the coasts of the Black Sea, slaves, timber for ship-building, salt fish, honey, wax, tar, wool, rigging, leather, and goat skins; from Byzantium, Thrace, and Macedonia, timber, slaves, and salt fish; slaves from Thessaly; carpets and fine wool from Phrygia and Miletus.' 'All the finest products,' says Xenophon (De Rep. Ath. ii. 7), 'of Sicily, of Italy, Cyprus, Lydia, Pontus, and the Peloponnesus, Athens by her empire of the sea is able to collect into one spot.' Nor were manufactures neglected. It is true that commerce

was regarded as the chief point of national policy, and that every encouragement was given to it which high protecting regulations and other privileges could bestow. But no restriction was imposed upon industry: the meanest manual occupation was attended by no disgrace; hence every branch of industry flourished, and the manufactures of Athens were everywhere esteemed. The native products of Athens, too, were of great importance; they consisted chiefly of olives, figs, and honey, and have been celebrated in all ages. The wealth of the city was also augmented by the silver mines of Laurion, and 'those sumptuous edifices which constituted the pride of the Athenians, and the admiration of the present day, owed their origin to the marble quarries of Pentelicus.' (Dodwell's Greece.) The opulence, prosperity, and power of Athens are fully exhibited by Thucydides (lib. ii. 18). Previously to the Peloponnesian war, the treasury contained 9,700 talents, besides a great quantity of gold and silver deposited in the temples of the gods and in other public edifices. The city was defended by 1,200 cavalry, 1,600 bowmen, and 13,000 heavy armed troops; 16,000 men were stationed in the fortifications, and the coast was guarded by 300 well-manned ships. The same historian has distinctly indicated (lib. ii. 40) that the freedom of the Athenian institutions, so pre-eminently adapted to develop the energies of the human mind, was the chief source of their unparalleled greatness; but our limits preclude us from entering into details on the government and public economy of Athens, and we can only refer the reader to Boeckh's invaluable treatise on this difficult and interesting subject.

The most striking object of Athens is the Acropolis, or old Cecropian fortress. The Acropolis alone formed the ancient city, and from its elevated position was termed *ἡ ἄνω πόλις*, in contradistinction to the lower part, *ἡ κάτω πόλις*, afterwards built. Athens, including the upper and lower parts, was styled, by way of eminence, *πόλις*, or *αὐρὴ*, the city. It was founded by Cecrops, about anno 1556 A.C. At its W. end, by which alone it was accessible, stood the Propylæa, the gate, as well as the defence of the Acropolis. Through this gate the periodical processions of the Panathænaic jubilee were wont to move; and the marks of chariot wheels are still visible on the stone floor of its entrance. It was of the Doric order, and its central pediment was supported by six fluted marble columns, each 5 ft. in diam., 29 in height, and 7 in their intercolumniation. On the right wing stood the Temple of Victory, and on the left was a building decorated with paintings by the pencil of Polygnotus, of which Pausanias has left us an account. In a part of the wall still remaining there are fragments of excellent designs in basso-relievo, representing the combat of the Athenians with the Amazons; besides six columns white as snow, and of the finest architecture. Near the Propylæa stood the celebrated colossal statue of Minerva, executed by Phidias after the battle of Marathon, the height of which, including the pedestal, was 60 ft. But the chief glory of the Acropolis was the Parthenon, or Temple of Minerva. It was a peripteral octostyle, of the Doric order, with seventeen columns on the sides, each 6 ft. 2 in. in diameter at the base, and 34 ft. in height, elevated on three steps. Its height, from the base of the pediments, was 65 ft., and the dimensions of the area 233 ft. by 102. The eastern pediment was adorned with two groups of statues, one of which represented the birth of Minerva, the other the contest of Minerva with Neptune for the government of Athens. On the

metopes was sculptured the battle of the Centaurs with the Lapithæ; and the frieze contained a representation of the Panathænaic festivals. Ictinus, Callicrates, and Carion, were the architects of this temple; Phidias was the artist; and its entire cost has been estimated at 1½ millions sterling. Of this building, eight columns of the eastern front and several of the lateral colonnades are still standing. Of the frontispiece, which represented the contest of Neptune and Minerva, nothing remains but the head of a sea horse and the figures of two women without heads. The combat of the Centaurs and the Lapithæ is in better preservation; but, of the numerous statues with which this temple was enriched, that of Adrian alone remains. The Parthenon, however, dilapidated as it is, still retains an air of inexpressible grandeur and sublimity; and it forms at once the highest point in Athens, and the centre of the Acropolis. On the NE. side of the Parthenon stood the Erechtheum, a temple dedicated to the joint worship of Neptune and Minerva. There are considerable remains of this building, particularly those beautiful female figures called Caryatides, which support, instead of columns three of the porticos; besides three of the column, in the north hexastyle, with the roof over these last columns. The rest of the roof of this graceful portico fell during the siege of Athens in 1827. Such is an outline of the chief buildings of the Acropolis, which in its best days had four distinct characters; being at once the fortress, the sacred inclosure, the treasury, and the museum of art of the Athenian nation. In the modern city of Athens itself there are still many monuments of antiquity to be found. Of these the principal are three exquisite Corinthian columns crowned by architraves; the Temple of the Winds, built by Cyrrhestes, of an octagonal figure, with a representation of the different winds on each of its sides; and the monument of Lysicrates, called by the modern Greeks, the lantern of Demosthenes. This building consists of a pedestal surrounded by a colonnade, and is surmounted by a dome of Corinthian architecture; it was supposed to be the spot which Demosthenes used as his study—a supposition which has, however, long been overthrown. Beneath the southern wall of the Acropolis, near its extremity, was situated the Athenian or Dionysiac theatre. Its seats, rising one above another, were cut out of the sloping rock. Plato affirms it was capable of containing 30,000 persons. It contained statues of all the great tragic and comic poets, the most conspicuous of which were those of Æschylus, Sophocles, and Euripides among the former, and those of Aristophanes and Menander among the latter. On the south-west side of the Acropolis is the site of the Odeum, or musical theatre of Herodes Atticus, named by him the theatre of Regilla, in honour of his wife. On the north-east side of the Acropolis stood the Prytæneum, where citizens who had rendered services to the state were maintained at the public expense. Extending southwards from the site of the Prytæneum, ran the street to which Pausanias gave the name of Tripods, from its containing a number of small temples or edifices crowned with tripods, to commemorate the triumphs gained by the Choragi in the theatre of Bacchus. Opposite to the west end of the Acropolis is the Areopagus, or Hill of Mars, on the eastern extremity of which was situated the celebrated court of the Areopagus. This point is reached by means of sixteen stone steps cut in the rock, immediately above which is a bench of stone, forming three sides of a quadrangle, like a triclinium, generally supposed to have been the

tribunal. The ruins of a small chapel consecrated to St. Dionysius the Areopagite, and commemorating his conversion by St. Paul (Acts of the Apost. xvii. 34), are here visible. About a quarter of a mile south-west from the centre of the Areopagus stands Pnyx, the place provided for the public assemblies at Athens in its palmy days. The steps by which the speaker mounted the rostrum, and a tier of three seats hewn in the solid rock for the audience, are still visible. This is, perhaps, the most interesting spot in Athens to the lovers of Grecian genius, being associated with the renown of Demosthenes, and the other famed Athenian orators,

‘ Whose resistless eloquence
Wielded at will that fierce democracy,
Shook the arsenal, and fulminated over Greece
To Macedon, and Artaxerxes’ throne.’

Outside the modern city are the ruins of the temple of Jupiter Olympius. This was one of the first conceived and the last executed of the sacred monuments of Athens. It was begun by Pisistratus, but not finished till the time of the Roman emperor Adrian, 700 years afterwards; but of the 120 columns which supported it, only 16 remain. Not far from it is the temple of Theseus, built by Cimon, shortly after the battle of Salamis. This is one of the most noble remains of ancient Athens, and the most perfect, if not the most beautiful, existing specimen of Grecian architecture. It is built of Pentelic marble. The roof, friezes, and cornices still remain; and so gently has the hand of time pressed upon this venerable edifice, that the first impression of the mind in beholding it is doubt of its antiquity.

Concerning the early inhabitants of Athens, we are almost wholly destitute of information; and even after its history begins to emerge from obscurity, the events which distinguish it are for a long time scanty and doubtful. Though Ogyges is mentioned as the first king of Athens, it is not till three centuries later that Athenian history assumes a definite form, when Cecrops (A.C. 1556), a native of Egypt, by marrying the daughter of Actæon, obtained the sovereignty. He collected the hitherto scattered inhabitants of Attica, divided them into tribes, and founded the Acropolis. Nothing of importance occurs in the history of Athens among the successors of Cecrops, till the time of Theseus (A.C. 1800), who united in himself the attributes of legislator and warrior. The reins of government descended in his family, without any occurrence of historical importance, till Codrus (A.C. 1068) heroically sacrificed his life for his country. At this time an aristocratical was substituted for the monarchical form of government, and the title of ‘king’ was exchanged for that of ‘archon.’ On its first institution, the office of archon was hereditary, and for life; but after the lapse of two centuries, it was limited to ten years, and after passing through six hands on this footing, was finally changed to an annual office. When the last change took place, a further alteration was made by dividing the duties of archon among ten persons, selected by the people from the class of the nobles, in whom were vested all legislative and judicial powers. Such a form of government was peculiarly exposed to party spirit and contentions for power, and a strong desire for a definite code of laws arising, Draco was chosen as the lawgiver (A.C. 624). The atrocity of his code, however, which awarded the punishment of death at once to the most venial offences and the most flagrant crimes, soon rendered it incapable of execution; and Draco lost the public favour and died in exile. To quell the distur-

bances which continued to distract the city, the people (A.C. 594) had recourse to Solon, who had already distinguished himself as a general, and invested him with the office of archon. The code of laws which he framed was admirably suited to the exigency of the times; for though its tendency was decidedly democratic, a counterbalancing check was given to popular encroachment by the establishment of the assembly of 400, and by the prerogatives vested in the court of Areopagus. Indeed, the freedom of spirit which Solon introduced and rendered durable, and the liberal education which the whole system of his laws made indispensable necessary to the noble and wealthy citizens, soon rendered Athens the central point of illumination to all the republics of Greece. Nor were the consequences of Solon’s measures at all retarded by the subsequent domination of Pisistratus (A.C. 561). For notwithstanding his assumption of the regal power, his administration was characterised by an assiduous cultivation of the arts and sciences; and it is to him that posterity is indebted for the collection of the Homeric poems in their present definite form. That the spirit of Athenian freedom was not extinct, was proved by the expulsion (A.C. 510) of Hippias and Hipparchus (the sons of Pisistratus), whose tyranny became oppressive; and from this time the constitution of Solon was gradually melted down into a pure democracy, until Cleisthenes gave the last blow to the aristocracy by the institution of ostracism.

The petty internal contests which had agitated Athens were now however to be swallowed up in others of far greater magnitude. With rapid strides the Persian monarchy had been encroaching upon Greece, and most of the Grecian states had already sworn fealty to Darius, when Athens and Lacedæmon raised the banner of defiance, and the battle of Marathon (A.C. 490), under the conduct of Miltiades, at once achieved the liberty of Greece, and enshrined Athens in the centre of a glory. Then followed the invasion of Greece by Xerxes, his alternate successes and defeats, the seizure and conflagration of Athens and its citadel, the stratagems of Themistocles, the memorable battles of Salamis, Plataea and Mycale, and, lastly, the defeat of the Persians. Among other consequences that resulted to Athens from the Persian invasion, was the impetus given to its naval affairs. Themistocles, who was eminently imbued with a naval spirit, caused (A.C. 479) a new and more commodious harbour to be built at the Piræus, which in process of time was joined to the city by the celebrated Long Walls. This precaution invested Athens with the command of the sea, and raised her commercial and military marine to an unexampled pitch of prosperity; a prosperity which was maintained in full vigour by the moderation of Aristides, so deservedly named the Just, and by the generous and martial spirit of Cimon, son of Miltiades (A.C. 466). Before the Persian invasion, Athens had contributed less than many other cities, her inferiors in magnitude and in political importance, to the intellectual progress of Greece. She had produced no artists to be compared with those of Argos, Corinth, Sicyon, Ægina, Laconia, and of many cities, both in the eastern and western colonies. She could boast of no poets so celebrated as those of the Ionian and Æolian schools. Her spirit hitherto had been decidedly martial; but her peaceful glories quickly followed, and outshone those of her victories and political ascendancy. After the termination of the Persian war, literature and the fine arts began to tend towards Athens as their most favoured seat, for here, during the age of

Pericles, above all other parts of Greece, genius and talents were fostered by an ample field of exertion, by public sympathy and applause. It was during this age that painting, architecture, and sculpture, reached the highest degree of perfection; and that Greek poetry was enriched with a new kind of composition, the drama, which exhibited all the grace and vigour of the Athenian imagination, together with the full compass and the highest refinements of the language peculiar to Attica. The drama was indeed the branch of literature which peculiarly signalled the age of Pericles; and the intellectual character of the Athenians is vividly portrayed by the sublime and impassioned strokes of *Æschylus*, the graceful and elegant touches of *Sophocles*, the elaborate philosophy of *Euripides*, and the caustic raillery and moral power of *Aristophanes*. And though time has effaced all traces of the pencil of *Parrhasius*, *Zeuxis*, and *Apelles*, posterity has assigned them a place in the temple of fame beside *Phidias* and *Praxiteles*, whose works are, even at the present day, unrivalled for classical purity of design and perfection of execution. But it was not alone to works of art and the embellishment of the city by splendid architectural decorations, that the efforts of Pericles were directed. For at the period in question, the whole of Athens with its three celebrated harbours, *Piræus*, *Munychia*, and *Phalerum*, connected by means of the Long Walls begun by *Themistocles*, was made to form one great city, enclosed within a vast parabolas of massive fortifications, extending to no less than 174 stadia, of which the circuit of the city amounted to 48, the Long Walls taken together to 75, and the circumference of the harbours to 76. But the advantages that flowed to Athens from the administration of Pericles were not without alloy. The splendour which he introduced exhausted the public revenues; and to supply deficiencies, recourse was had to the infliction of rigorous imposts upon the allied states. Hence a spirit of disaffection was engendered; and Sparta, who had long viewed with jealousy the magnificence of her rival, seized the opportunity of fanning the discord into a flame. This issued in the Peloponnesian war, the various fortunes of which have been so ably recorded by the pen of *Thucydides*. After the lapse of twenty-seven years, during which period the movements of the conflicting parties were characterised by various success, victory at length declared for the Spartans, and the Athenians were forced to submit to the dominion of the Thirty Tyrants; a humiliating period in the history of Athens, over which we would willingly throw a veil. It was reserved, however, for the skill of *Thrasybulus* (A.C. 403) to restore to Athens its former constitution; a revolution which he was able to effect without much severity, or effusion of blood. Perhaps in the whole history of the Athenians, there is no feature more remarkable than the vigorous elasticity of spirit which they displayed in recovering from disasters; and never was the truth of this remark so strikingly illustrated as at the present period. One generation had scarcely passed away, since she was groaning beneath the Thirty Tyrants and the Reign of Terror—her native energies prostrate, her external resources swept away—and now we find her on a lofty eminence. Seventy-five cities hail her as the head of their confederacy; the *Ægean* isles are numbered among her foreign settlements; *Lacedæmon* recognises her dominion of the sea; she is confessedly, and without a rival, once more the first of the Grecian communities. Nor is this all; hitherto we have seen her producing and

fostering legislators, warriors, statesmen, painters, sculptors, poets, historians, and orators; we are now to behold her in another aspect, as the mother of that philosophy at once subtle and sublime, which even at the present hour exerts a powerful influence over the human mind.

From this time a new æra begins in the history of Athens. *Philip*, king of Macedonia, by dint of dissimulation and bribery, contrived first to embroil the different states of Greece, and then to trample on their independence. The Athenians, roused by the thunders of *Demosthenes*, made a vigorous defence (A.C. 338); but the battle of *Chæronea* proved adverse to their hopes, and on this field sunk the supremacy of Athens. Under the sway of *Alexander the Great*, and the different generals who succeeded him in the government of Athens, she made various efforts to throw off the yoke; but these efforts resembled more the ebullitions of a slave than the aspirations of a noble spirit struggling to be free. In this state she continued, the sport of every tyrant who chanced to draw a prize in the lottery of war, till *Sylla* proclaimed Athens a tributary of Rome (A.C. 86). But while Athens thus saw every trace of her political existence vanish, she rose to an empire scarcely less flattering, to which Rome itself was obliged to bow. Her conquerors looked to her as the teacher and arbiter of taste, philosophy, and science; and all the Romans who were ambitious of literary attainments flocked to Athens in order to acquire them. This tribute of respect to Athenian taste and genius was paid by various Roman emperors in succession. Under *Adrian* (A.D. 117) she even regained much of her former internal splendour; and his example was followed by several of his successors, though on a less magnificent scale. The description of Athens by *Pausanias* belongs to this period. In the third century, according to *Zosimus*, Athens was taken by Gothic invaders, who, however, did not long retain their acquisition, having been expelled by the inhabitants under the command of *Cleodemus*. In the year 398, it was again taken by *Alaric*, king of the Goths, who is said to have laid in ruins its stately structures, and to have stripped it of its ancient splendour. After this dreadful visitation, Athens sunk into insignificance, and became as obscure as she had once been illustrious. We are told indeed that the walls of Athens were put in a state of defence by *Justinian*; but from the time of this emperor, a chasm of nearly seven centuries ensued in its history, except that in the year 1130 it furnished *Roger*, king of Sicily, with a number of artificers, who there introduced the culture of silk. Doomed apparently to become the prey of every spoiler, Athens again emerged from oblivion in the 18th century, under *Baldwin* and his crusaders, at a time when it was besieged by a general of *Theodorus Lascaris*, the Greek emperor. In 1427 it was taken by *Sultan Murad*; but some time afterwards was recovered from the Turks by another body of crusaders, under the *Marquis of Montferrat*, a powerful baron of the west, who bestowed it on *Otto de la Roche*, one of his followers. For a considerable time it was governed by *Otto* and his descendants, with the title of duke; but this family was afterwards displaced by *Walter of Brienne*. The next rulers of Athens were the *Acciaïoli*, an opulent family of Florence, in whose possession it remained till 1455, when it was taken by *Omar*, a general of *Mohammed II.*, who settled a colony in it, and incorporated it completely with the Turkish empire. In the year 1687 it was captured by the Venetians under *Morosini*, after a short siege, during which the *Parthenon*, then in an almost perfect state, and the other buildings of

the Acropolis, sustained great damage. After a short interval, it again fell into the hands of the Turks, under whose jurisdiction it remained, until the treaty of Adrianople in 1829, following up the provisions and the stipulations of the treaty of London in 1827, established the new kingdom of Greece, of which Athens is now the capital.

ATHENS is the name of several towns in the U. States, but none of them of any material importance.

ATHERSTONE, a m. town of England, co. Warwick, hund. Hemlingford, contiguous to the Coventry canal, 12½ m. N. Coventry, and 102½ m. from London by the London and North-Western railway. Pop. 3,877 in 1861. It has a free school, founded in 1573, and manufactures of hats, ribbons, and shalloons. There are four annual fairs; that which is held on the 19th of September being one of the most considerable in England for the sale of cheese.

ATHERTON. See CHOWBENT.

ATHIS, a town of France, dep. Orne, cap. cant., arrond. Domfront. Pop. 4,508 in 1861. The town has several cloth manufactures.

ATHLONE, an inland town of Ireland, co. Westmeath and Roscommon, on the Shannon, 65 m. W. Dublin, on the Midland Great Western railway. Pop. 6,227 in 1861. The name of the town is derived from *Ath Luan*, 'the ford of the rapids.' To command this ford a castle was built here by the English shortly after their arrival in the country, that became a post of great consequence. In 1641 Athlone was besieged by the Irish army; but, after a resistance of upwards of five months, was relieved by the Duke of Ormond. In the subsequent war of 1688, it was gallantly defended by Col. Grace against the English, but was taken by storm the next year by Ginkell, afterwards Earl of Athlone. The fortifications, which had suffered much during this siege, were renovated; but in 1697 the castle and the greater part of the town were destroyed by the explosion of a gunpowder magazine, occasioned by lightning. During the war with France it was made the military dépôt for the W. of Ireland, and secured by strong works on the Connaught side, covering an extent of fifteen acres, and containing two magazines, an ordnance store, an armoury for 15,000 stand of small arms, and barracks for 900 men.

The town is divided into two nearly equal portions by the Shannon, over which is a long and inconveniently narrow bridge, built in the time of Elizabeth. Its public buildings are the two parish churches, four Roman Catholic parochial chapels, a Franciscan chapel, a Presbyterian and two Methodist meeting houses. A public school, endowed by one of the Ranelagh family with 470 acres of land, educates, maintains, and apprentices fifteen boys; there are also parish schools for boys and girls, and an abbey school for Catholic children. The great majority of the inhabitants are Roman Catholics. According to the census of 1861, there were but 1,009 members of the Established Church, 60 Presbyterians, and 21 Methodists.

By its ruling charter, received from James I. in 1606, its limits are fixed at 1½ mile in every direction from the centre of the bridge; but for electoral purposes they are confined nearly to the space covered with dwelling-houses, which extends over about 485 acres. The governing body consists of a sovereign; thirteen burgesses, one of whom is the constable of the castle; a common council of about twenty members, chosen for life; and an unlimited number of freemen nominated by the common council. The borough was represented by two members in the Irish, and is now represented by one in the Imp. Parl. The right of

election exists in the remaining old freemen, and in the 101. householders. The number of electors in 1864 was 270, of whom nine old freemen and the rest 101. householders. The general sessions for Roscommon are held here twice a year, and those for Westmeath four times. There are petty sessions on alternate Saturdays.

There are in the town, or in its immediate neighbourhood, two distilleries, and the same number of breweries, tanneries, and soap and candle manufactories, besides several flour-mills. Coarse hats were formerly made here in large numbers, but the demand for them is now trifling. Besides the railway, which places Athlone in direct communication with Dublin and Galway, and has greatly benefited the town, a small trade is carried on with Shannon Harbour and Limerick by steamers on the Shannon, the intercourse being aided by a canal about 1 m. in length, near Athlone, by which the rapids in the river are obviated. Markets on Tuesdays and Saturdays. Fairs on the Monday after Epiphany, 10th March, Holy Thursday, and 24th Aug.: each fair continues for three days.

ATHOS, AGIOS-OROS, or MONTE SANTO, a famous mountain of Turkey in Europe, near the S. extremity of the most easterly of those peninsulas that project in a SE. direction from the district of Saloniki (part of Macedonia) into the Aegean Sea, being that between the Gulfs of Contessa (*Sinus Strymonicus*) and Monte-Santo (*Sinus Ningiticus*). This peninsula is joined to the mainland by a low isthmus, not more than 1½ m. across, and not more, where highest, than 15 ft. above the level of the sea. But the peninsula itself, which is about 25 m. in length by about 4 m. in breadth, is mountainous and rugged. Mount Athos has, by a recent survey, been found to be in lat. 40° 10' N., long. 24° 20' 30" E., and to reach the height of 6,849 ft. above the level of the sea. It rises abruptly from the water, its lower parts being covered with forests of pine, oak, chestnut, &c., above which towers the bare conical peak of the mountain.

Mount Athos has been famous both in ancient and modern times. Herodotus relates that the fleet of Mardonius, the Persian general, in attempting to double Mount Athos, was reported to have lost above 800 ships and 20,000 men. (Lib. vi. s. 44.) When Xerxes invaded Greece, he determined to guard against the occurrence of a similar disaster by cutting a canal across the isthmus, of such dimensions as to admit of two triremes passing abreast (Herod. lib. vii. s. 24); of which great work the traces still remain. In modern times the peninsula of Mount Athos has been occupied from a remote epoch by a number of monks of the Greek church, who live in a sort of fortified monasteries, of which there are about twenty, of different degrees of magnitude and importance. These, with the farms or *metochis* attached to them, occupy the whole peninsula, which has thence derived its modern name of Monte Santo. The situation of the different monasteries is generally the most romantic and strikingly beautiful that can be imagined. Some of them belong to Russians, others to Bulgarians, and others to Servians. Except the produce of their own farms and vineyards, and the sale of crosses and beads, they depend chiefly on the oblations offered by the numerous pilgrims by which they are occasionally visited, and on the sums collected by their mendicant brethren in other parts. They pay an annual contribution to the Porte. No females are admitted within this peninsula.

Most of the monasteries possess considerable collections of manuscripts, and it was long a pre-

valent opinion that some of the lost treasures of ancient genius might be recovered, were a diligent search made in the monasteries of Mount Athos. In 1801, however, they were thoroughly explored by Dr. Carlyle, and, with the exception of a copy of the *Illiad* and *Odyssey*, a few of the edited plays of the different tragedians, a copy of Pindar and Hesiod, the Orations of Demosthenes and *Æschines*, parts of Aristotle, and copies of Philo and Josephus, he did not meet with anything valuable. There were some valuable MSS. of the New Testament, but none so old by centuries as the *Codex Alexandrinus* or MS. of Beza. Polemical divinity, and lives of the saints, formed the great bulk of the libraries.

The monasteries suffered severely from the exactions of the Turks during the Greek revolution. The entire population of the peninsula was estimated at about 6,000 in 1801; but at present it is probably rather under 8,000.

ATHY, an inl. town of Ireland, co. Kildare, prov. Leinster, on the Barrow, 38 m. SW. Dublin by road, and 44½ by the South-Eastern railway. Pop. 4,124 in 1861. The ancient name of the town was *Athlegar*, 'the western ford.' From its position on the border of the English pale, and on a ford of the river, it has been a frequent scene of conflict. In 1308 it was plundered by the Irish, and burnt by Edward Bruce in 1315. A fort, built about 1506, to guard the pass of the river, was occupied in 1648 by Owen Roe O'Neal, on the part of the Irish, but in 1650 it surrendered to the parliamentary forces. The two portions into which the town is divided by the Barrow, are connected by a bridge of five arches, thus forming one continuous main street, whence several lesser avenues diverge. There is a par. church, a plain building; a spacious R. Cath. chapel, with a Presbyterian and a Methodist meeting-house. Adjoining the town is a small chapel, an ancient cemetery, and a small Dominican monastery. The vast majority of the inhabitants are Roman Catholics; the census of 1861 showed 352 members of the Established Church, 17 Presbyterians, and 57 Methodists. Besides the parochial school, there are two others supported by voluntary subscriptions. There is also a dispensary and a poor fund. It is a chief constabulary station, and has a small cavalry barrack. By a charter of 11 James I., the corporation consists of a sovereign, two bailiffs, and twelve burgesses. Previously to the Union the borough sent two ms. to the Irish parliament. The summer assizes for the county are held here, as are general sessions of the peace in January and June, and petty sessions every Tuesday. The markets are held on Tuesdays and Saturdays; the fairs on 17 Mar., 25 Apr., 9 June, 25 July, 10 Oct., and 11 Dec. The modern consequence of the town is mainly derived from its being a station on the South-Eastern railway, as well as at the junction of a branch of the Grand Canal with the Barrow, and from the latter being made navigable to its embouchure. It has, in consequence, become a place of considerable commercial importance. The principal trade is in corn, of which large quantities are purchased, partly for mills on the Barrow, but chiefly for the Dublin market. Corn, butter, and provisions are also sent down the Barrow to New Ross and Waterford; and timber and other articles, for the use of the adjoining districts, are imported by the same channel and by railway.

ATINA, a town of Southern Italy, prov. Caserta, 12 m. SE. Sora, near the Melfa, among some of the loftiest summits of the Apennines. Pop. 5,140 in 1862. The town has a cathedral, a convent, and a hospital; and was formerly the seat of a bishopric, suppressed by Pope Eugene III.

It is principally remarkable for its Cyclopean remains.

This is one of the most ancient of the Italian cities; being, according to Virgil (*Æn. lib. vii. 629*), a considerable town as early as the Trojan war. It was taken from the Samnites by the Romans, A.U.C. 440. Cicero says it was a prefecture, and one of the most populous and distinguished in Italy. (*Cic. pro Plancio*.) It received a colony from Rome during the reign of Nero.

ATLANTIC OCEAN, one of the great divisions of that watery expanse which covers more than three-fourths of the surface of the globe. The Atlantic Ocean lies between the Old and the New World, washing the E. shores of the Americas, and the W. shores of Europe and Africa, extending lengthwise from the Arctic to the Antarctic Seas. Where narrowest, between Greenland and Norway, it is about 930 m. across; but between N. Africa and Florida, where it attains to its maximum breadth, the distance from shore to shore exceeds 4,150 m. Though it comprises little more than a fifth part of the whole ocean, its shores form a more extended line of coast than those of all the other seas taken together. This arises from several extensive mediterranean seas, which enter deeply into the contiguous continents, being connected by straits with the N. Atlantic Ocean, and forming portions of it. Such are the Baltic and Mediterranean Sea in the Old Continent; and Hudson's and Baffin's Bays, and the Columbian Sea (Gulf of Mexico and Caribbean Sea), in the New World. And it is probably in some degree owing to the facilities afforded for commercial intercourse by these arms of the Atlantic, that the countries in their vicinity have made a greater and more early progress in civilisation than those of most other parts of the world.

To the same cause has also been ascribed the circumstance of the nations inhabiting the shores of the Atlantic having applied themselves peculiarly to navigation: they have not limited their activity in this branch of industry to the Atlantic, but navigate every other sea; and there is now no harbour, how remote soever, which is not regularly visited by their ships, with the exception of those to which a free access is denied, or which do not furnish any article of trade. The Atlantic Ocean has thus, as it were, become the most frequented highway of commercial nations, and has been more completely explored and examined than the other seas; and frequently repeated experiments have enabled rules to be laid down for the guidance of vessels traversing its different parts, in different seasons of the year, which give the greatest facility and security to its navigation.

Those groups of islands which impede navigation, and render it comparatively difficult and dangerous, are much less numerous in the Atlantic than in most other seas. If, indeed, we except the chain of islands which separates the Columbian Sea from the Atlantic, and which, therefore, may be considered as forming part of the shores of the ocean, it can hardly be said that there exists any such group of islands between 50° N. lat. and 50° S. lat. The Azores, Canaries, and Cape de Verd Islands, as well as those of Guinea and the Bermudas, occupy a comparatively small space, and are easily avoided; and the two last-mentioned groups lie far from the common track of vessels. The Canaries, including Madeira, are frequently visited; being situated where it is usual for vessels to change the direction of their course.

The direction of the winds and currents is of special importance as affecting the performance of voyages; and to the more exact knowledge of their course and influence, as well as to other im-

provements in the art of navigation, is to be ascribed the fact that voyages are at present performed in nearly half the time they occupied only two centuries ago.

Winds.—As the Atlantic Ocean, including the two Icy Seas at its extremities, extends from the Arctic to the Antarctic Pole, it is in parts subject to the *perpetual* or *trade* winds, in others to the *variable* winds; and along some of its coasts, between the tropics, the winds are subject to a regular change according to the seasons—or, in other words, *monsoons* are there prevalent.

The trade-winds do not extend beyond the 32nd parallel from the equator; sometimes they are not met with at a greater distance than 27° lat. The whole surface of the sea extending from these latitudes to the poles is the province of the *variable* winds. The latter blow in every season from all points of the compass; but, by long experience, it has been found that the W. winds prevail in both hemispheres. If a line be drawn in the direction of a meridian, it is estimated that the proportion between the winds blowing from the W. to those that come from the E. is as 9 to 5½. This, at least, is the proportion in the N. hemisphere, where the estimate has been made with the greatest exactness. It is, besides, to be observed, that whilst the winds between the tropics and near them blow nearly always with the same degree of force, the variable winds vary extremely in this respect—blowing sometimes almost with the strength of hurricanes, and at other times sinking into dead calms.

The two trade-winds do not blow over the whole surface of the sea lying between the tropics. They are separated from each other by the *region of calms*. This region varies, according to the seasons, in extent; and does not always occupy the same part of the ocean. It is found to extend from a short distance off the shores of the Old Continent to a short distance off those of the New, but its breadth is very various. Sometimes it occupies not more than 8° of lat., and at other seasons up to 10°. The most remarkable fact respecting this region is, that it does not extend equally on both sides the equator, but lies nearly the whole year round in the N. hemisphere. Only when the sun is near the tropic of Capricorn it passes the line, but never extends farther to the S. than 2½°. On the N. of the equator it advances at certain seasons, even to the 14th or 15th deg. of lat. These changes in the extent and in the range in which the region of calms is met with, and in which the trade-winds blow, depend evidently on the position of the sun. When the sun is near the N. tropic, or retiring from it, especially in July, August, and September, the calms advance towards the N. even to the 14th and 15th deg. of lat.; and at the same time the S. trade-winds encroach considerably on the N. hemisphere, being met with as far as the 4th or 5th deg. of N. lat. Then the breadth of the region of calms is 10°; but when the sun is near the S. tropic, or begins to retire from it, the S. trade-winds also recede farther S.; and in January, February, and March, the calms extend to the S. of the line, but only to a distance of from 1° to 2½°. In this season the N. trade-wind advances to 29° N. lat., and the width of the region of calms is then narrowed to from 8° to 4° lat. The central line of the region of calms may be placed at about 5° or 5½° lat.; and its mean breadth may extend over 50 or 5½°, or from 800 to 350 sea m. Continued calms reign in this region; and they would form an insuperable obstacle to the progress of vessels, were not the air daily agitated by a squall which occurs about two o'clock in the afternoon.

At noon, a black and well-defined cloud appears near the horizon, which increases, and announces a violent thunder-storm; suddenly a wind arises, blows for a short time with great violence, sends down a few drops of rain; and after this tumult of the elements has lasted from half to one hour, the calm returns. These short violent squalls are called *tornadoes*.

The *northern trade-wind* is subject to change, not only respecting the extent of sea over which, but also respecting the direction in which, it blows. When the sun advances in the N. hemisphere, it withdraws, as already seen, farther from the equator. It also blows over a wider range of sea, near the coasts of America, than at a short distance from the Old Continent. In the seas inclosing the Canary Islands, it is rarely met with at 80° lat., and often not before the 27th parallel is reached; here, therefore, its N. boundary may be fixed at 28½° N. lat. as a mean. On the W. borders of the ocean, however, near the coast of America, it extends farther N., even to 82° lat.; here its mean boundary may be fixed at 80° lat. In the neighbourhood of the Old Continent, this trade-wind blows from the NE., but it declines more to the E. as it proceeds farther W. In the middle of the ocean it is E. ½ N., and where it approaches the New Continent it blows from due E. This wind is somewhat changeable towards its N. boundary; sometimes violent NE. winds are found to prevail between the 22nd and 30th deg. of lat., and in the same parallels it is frequently very weak. But no navigation can be more pleasant than that with this trade-wind. It is rather to be called a breeze than a wind; and is uniform, and never interrupted by squalls. The waves which are raised by it are low, and their swell gentle. Where this wind blows, the passage from the Old Continent to America may safely be effected in an open boat. Hence the Spaniards have called this part of the Atlantic Ocean the 'Sea of the Ladies,'—*Golfo de las Damas*.

The *southern trade-wind* differs from the northern in the greater extent of sea over which it blows, extending, as we previously observed, in summer, to 5° or even 6° to the N., and never receding farther to the S. of the equator than 2½°. It is, farther, much more regular, not being interrupted towards its S. boundary by other winds. Its direction near the Old Continent is also somewhat different; for here it blows parallel to the coast extending from the Cape of Good Hope to the Bight of Benin—that is, from the S. At a distance from the continent it becomes by degrees more easterly, and where it approaches America its direction is nearly due E. The meridian of 20° W. of Greenwich may be considered as the line of separation between the winds which blow more southerly or more easterly. To the E. of this line, the wind varies between SSW. and SSE.; but to the W. of it, between SSE. and SSW.

In some parts the trade-winds extend to the very shores of the continents; in others, a tract of sea lies between the trade-winds and the land in which a different wind is prevalent. Thus it is found, that in the sea between the N. trade-wind and the African coast, from the Canaries to the Cape de Verd Islands, the wind blows constantly from the W. This phenomenon is sufficiently explained by the peculiar nature of the Great African Desert, the Sahara. Its surface, destitute of vegetation, and covered with loose sand, is heated by the sun to an excessive degree, and in consequence the superincumbent air is rarefied, and rises. Where this rarefied air comes into contact with the more dense air covering the surface

of the sea, the latter expands over the desert; and this gives rise to a continual flow of air from W. to E.

Farther S., between the Cape de Verd Islands and Cape Mesurado (7° N. lat.), a kind of monsoon prevails, which, in certain places, blows to the distance of 200 m., and opposite Sierra Leone about 150 m. off shore. From September to June it proceeds from the N. or NE., and in the rest of the year from SW. Along the coast of Guinea, and in the Bight of Benin, the S. trade-wind prevails nearly the whole year round, but its direction is a little changed, the wind blowing from the SW. Between the Bight of Benin and 80° S. lat., the trade-wind blows to the very shores of the continent.

On the other side of the Atlantic Ocean, along the coast of Brazil, a regular monsoon prevails. It proceeds, between September and March, from between N. $\frac{1}{2}$ E. and NE. $\frac{1}{2}$ E.; and from March to September, from between E. $\frac{1}{2}$ N. to ESE. These winds blow with considerable force, and extend sometimes to a great distance from the shore, especially in the months of June and July. There are instances on record of its having been met with nearly as far as the middle of the Atlantic.

N. of Cape St. Roque, the trade-winds reach the very shores of the American continent and the West Indies. In these parts they seem even to extend over a considerable part of the continent itself; for the continual E. wind which blows over the plain of the river Amazon, to the very foot of the Andes, is generally considered as a continuation of the trade-winds. The same may be said of the E. winds which blow over the plains watered by the Orinoco, where this wind is felt as far as Angostura, and at certain seasons still farther W.

Currents.—We are less acquainted with the currents than with the winds. This arises partly from the difficulties in which the subject is naturally involved, and partly from the comparatively short time which has elapsed since they have attracted the attention of navigators and naturalists.

Currents are to be distinguished from *drift-water*. By the latter expression, that motion of the water is understood, which is produced on the surface of the sea by perpetual or prevailing winds. By pushing continually the upper strata of the water towards that point to which they blow, they cause a slow motion of the water in that direction. Accordingly, we find that that part of the Atlantic Ocean which is subject to the trade-wind, is in a continual motion towards the W.; which is most sensible in those regions which are always exposed to the trade-winds, and less so where they blow only in certain seasons. This kind of current is in most parts constant, but its flow very gentle. Its mean velocity is from 9 to 10 m. a day, and it is very favourable to navigation.

Other drift-currents are met with in those parts of the Atlantic in which the wind changes with the seasons; as along the coast of Sierra Leone, and that of Brazil, S. of Cape St. Augustine. In the former the current runs, from September to June, S., and in the remainder of the year in a N. direction. Along the coasts of Brazil, the current, from September to March, runs in a S. direction, and from March to September, N.

Even in those parts of the Atlantic which are subject to a continual change of the wind, a drift-current is observable. We observed that N. of 30° N. lat., and S. of 30° S. lat., in the region of the variable winds, the W. winds prevail, and

in these parts of the ocean a W. current is perceived; but it is feeble, and manifests itself in the N. Atlantic only on the whole course of a voyage from Europe to America and backward, retarding the former and forwarding the latter.

Besides the drift-currents, the velocity of which is moderate, there are others of much greater force, called properly *currents*. Their origin is still involved in obscurity; but, from some facts, we may suppose that they are not formed on the surface of the water, but are of great depth, and in many parts, if not in all, extend to the very bottom of the sea. These currents cannot be compared with rivers; for they extend over such a portion of the surface of the sea, that if they were transferred to the continent they would cover countries of great extent.

In the Atlantic, these currents run across the ocean in three places. The current crossing the Atlantic near the line, is called the *Equatorial current*; it runs from E. to W. The current, which, in a direction from W. to E., traverses the N. Atlantic between 86° and 44° bears the name of the *Gulf Stream*; and that which runs in the same direction, through the S. Atlantic, between 30° and 40° S. lat., is named the *S. Atlantic current*. Other currents run along the shores of both continents between 40° N. lat. and 80° S. lat. Along the Old Continent they run towards the equator; but, on the shores of America, they flow from the line towards the poles. These latter kind of currents are intimately connected with the equatorial current; but very slightly, if at all, with the gulf stream or the S. current.

The *Equatorial current* may be supposed to have its origin in the Bight of Benin, on the W. shores of Africa, between the islands of Anno Bom and St. Thomas; whence it proceeds in a W. direction, towards Capes St. Roque and Augustine, on the coast of Brazil. Its breadth is different in different parts. Near its origin it is not quite 8° of lat. across, about 160 m.; but, in its progress to the W., it increases considerably in width. Opposite Cape Palmas, its N. border is found at about $10^{\circ} 45'$ N. lat., but the S. reaches nearly to 5° S. lat.; thus its breadth extends here over more than 6° of lat., or upward of 360 nautical m. It attains its greatest breadth between 20° and 22° W. long., where it extends over 7° or 8° of lat., from 44° or 5° S. of the equator to 24° or 30° N. of it; here, consequently, it is 450 nautical m. across. A little farther W., between 22° and 23° W. long., it sends off a branch to the NW.; and here it narrows to about 300 m., which breadth it probably preserves up to its division into two currents, opposite Capes St. Roque and St. Augustine; but that part of its course which lies W. of 23° and 24° W. long. is somewhat declined towards the S. Its velocity varies likewise, not only in the different parts of its course, but also in different seasons, being much greater in summer than in winter. From Anno Bom to 10° W. long. it may run from 25 to 30 m. a day; but between 10° and 16° its velocity increases to from 44 to 80 m. at the end of June and the beginning of July; in the other summer months it is somewhat less; and, from October to March, very moderate, and sometimes very weak. Between 16° and 23° W. long., where it is commonly crossed by vessels, the rapidity of the current rises often to 45, 50, and even 60 m. per day; but its mean velocity may be fixed at about 30 m. The temperature of the water within the current is everywhere some degrees lower than that of the seas without the current. The whole length of this current, from St. Thomas to Cape St. Roque, amounts to upward of 2,500 sea m.

The portion of the equatorial current which

branches off from the main stream between 22° and 23° W. long., and about 24° N. lat., is called the *NW. current*. At the point of separation, it may be from 180 to 200 m. in width; farther N. it widens even to 300 m., but narrows again to 240 and less. Its velocity is not so great as that of the main equatorial current. In its S. part, as far as 10° N. lat., it may run 30 m. a day; but it afterwards slackens considerably; yet at all times it may be traced up to 18° N. lat., and commonly even to 25° . In the N. part of its course it declines more to the N., till it is lost in the drift-current. It is not improbable that this current increases the velocity of the drift-current, which navigators have observed between 35° W. lat. and the island of Trinidad; and that the change in the direction of the drift-current, which here declines to the NW., is also to be ascribed to the same cause.

At a distance of about 300 m. from the coast of Brazil, extending between Capes St. Roque and St. Augustine, the equatorial current divides into two branches. That which continues to run along the N. coast of Brazil, turns at the mouth of the Amazon to the N., and proceeds along the shores of Guyana to the island of Trinidad, where it enters the Caribbean Sea. It is called the *Guyana current*, and the length of its course does not fall short of 1,500 m. Its velocity is greatest in summer and winter, and may, in the former, be about 30 m. a day at a mean. It enters the Caribbean Sea by the different straits which, S. of the island of Martinique, divide the smaller Antilles from one another and from the continent of S. America. In these straits the currents setting into the Caribbean Sea are strong; that between Trinidad and Grenada runs from 1 to $1\frac{1}{2}$ m. per hour; less rapid is the current in the strait between St. Vincent and St. Lucia; and between the latter island and Martinique it runs not more than 21 m. per day. At the Virgin Islands the flow of the water is only 8 or 10 m. a day, and that is not more than the common rate at which the drift-current runs. In the Caribbean Sea the Guyana current terminates; for in that sea no perpetual current has been traced. It rather seems that the currents which exist there, depend on the winds, and change the direction of their course according to the seasons.

The other current, which branches off from the equatorial current, opposite Cape St. Augustine in Brazil, is called the *Brazil current*, and runs to the SW. along the shores of S. America, but does not in any part of its course approach near to them. From 8° S. lat., where it separates from the Guyana current, to 16° or 17° S. lat., the current has a considerable width, and runs about 20 m. or somewhat more a day. Its distance from the continent is nowhere less than 250 m. Farther S. it increases in breadth and velocity, and approaches at the same time nearer the continent. Opposite Cape Frio it runs about 30 m. a day, and is not more than 200 m. distant from the coast. As, however, from the last-mentioned cape the land falls back to the W., the current is soon found at 300 m. and more from the continent. By declining, by degrees, its course farther to the W., it approaches nearer, but never is found at a distance less than 250 m. Thus it continues to the mouth of the La Plata river, running all this way from 15 to 20 m. per day. It becomes weaker as it advances farther S., but may be traced to the straits of Magalhaens and Le Maire.

The Guyana and Brazil currents are those with which the equatorial current is connected on the shores of America. The currents with which this great sea-stream is united near the coast of the Old Continent, are the S. and the N. African currents.

The *S. African current* seems to have its origin some degrees N. of the Cape of Good Hope. It appears, however, not to be connected with the Agulhas current, which is found at a short distance S. from the Cape, and which runs W. from the Indian into the Atlantic Ocean. Between 18° and 11° S. lat. exists a current running from S. to N. at a short distance from the coasts of Africa, but we are not acquainted either with its breadth or velocity; neither, however, appears to be considerable. Between 11° and the island of Anno Bom, the current runs in a NW. by W. direction at the rate of from 15 to 25 or even 30 m. a day, but seems to be of inconsiderable width. It increases in velocity at the mouth of the river Zaire, and in width at Cape Lopez; but soon afterwards merges into the equatorial current.

The *North African current*, which is also called the *Guinea current* from its terminating opposite the coast of Guinea, has its origin opposite the coast of France, between the southern shores of Ireland and Cape Finisterre in Spain. It is impossible to determine more precisely the place where it originates; but it is a fact well established by experience, that the whole body of water between the Peninsula and the Azores is in motion towards the S., the western part setting more southerly, and the eastern more to the SE. Between Cape St. Vincent in Portugal, and Cape Cantin in Morocco, the motion is directed towards the Straits of Gibraltar; and this motion extends as far westward as 20° W. long. Between Cape Cantin and Cape Blanco the general direction of the current is along the coast, but it sets in nearly perpendicularly towards the shores. This portion of the current is about 300 m. across between Cape Cantin and Cape Bojador, but only from 150 to 180 between the last-mentioned Cape and Cape Blanco. Between Cape Blanco and Cape de Verd the current runs a little to the W. of S., approaching the general direction of the drift-current of the trade winds. Near the Cape de Verd Islands the temperature of the water of the current is 8° lower than in those parts of the sea which lie beyond it. After passing Cape de Verd, the current turns S., and by degrees SE. and SSE. Here it does not approach the shores of Africa; at least, between Cape de Verd and Cape Mesurado it is met with only at a distance of about 200 m. from the coast. The intermediate space is occupied by periodical currents, which run, from September to June, S. or SW.; but in the remainder of the year, NE. S. of Cape Mesurado it approaches the coast, and increases in velocity, running sometimes at the rate of 2 m. per hour; here its temperature is considerably increased, but still lower than that of the ocean at large. At Cape Palmas it turns entirely to the E.; and skirts the coast of Guinea until it disappears in the sea opposite the mouth of the Quorra, and in the Bay of Biafra, where it partly seems to mingle with the Equatorial current.

With the N. African current another current is connected, which runs across the British Channel at its western extremity. It runs E. from Cape Finisterre along the S. shores of the Bay of Biscay; turns then to the N. and NW., along the W. coast of France; and passing Ushant, it traverses the British and Irish Channels. At the Scilly Islands, which it touches with its eastern border, it is 60 m. across. It then continues to the southern shores of Ireland, W. of Carnsore Point; and hence turns to Cape Clear, where, after entering the ocean, it turns to the S. and SE., and rejoins the N. African current. By this current vessels are frequently placed in danger near the Scilly Islands. With certain winds this current runs from 24 to 28 m. a day.

The *Gulf stream* which crosses the Atlantic

between 36° and 44° N. lat., originates in the Gulf of Mexico. The water in this sea is set by two currents into a nearly circular motion, which seems to be the principal reason why it acquires such a high degree of temperature,—being 86° Fahr., whilst that of the ocean at large in the same lat. (25° N.) does not exceed 78° Fahr. The two currents, which put in motion perhaps three-fourths of the water of the gulf, unite about 70 m. W. of the Havannah; and by this junction the Gulf stream is formed. It runs along the N. coast of the island of Cuba, eastward; but it is neither broad nor rapid at the entrance of the Straits of Florida at the Salt Keys, where it begins to run about 1½ m. an hour. After entering the straits, its velocity increases to 2½, 3, and occasionally 4 m. an hour. In the Narrows, however, between Cape Florida and the Bimini Islands (which belong to the Bahamas), where the strait is only 44 m. across, and the water-way is straitened by reefs and shoals to 35 m., it runs, in the month of August, 5 m. an hour; and at that rate commonly through the remainder of the strait up to Cape Canaveral. Though the current has traversed, in this space, about 4° of lat., the temperature of its water is not sensibly diminished. From Cape Canaveral (about 28° N. lat.) the gulf-stream runs first due N., and then nearly N.E. along the shores of the United States, up to Cape Hatteras (33° N. lat.). It increases gradually in width, and decreases in velocity. At Cape Hatteras it is from 72 to 75 m. across, and it runs only ¾ m. per hour. The temperature of its water has sunk from 86° to 83°. In this part, the current runs not so close to the shores as in the Strait of Florida. Its N.W. edge is about 24 m. S.E. from Cape Hatteras. After passing this cape, the current increases still more rapidly in width, and diminishes gradually in velocity. Between Cape Hatteras and the banks of Nantucket and St. George (40° N. lat.), the general direction of the current continues to be from S.W. to N.E., though the W. edge runs nearly due N. At the Nantucket and St. George Banks it suddenly declines its course to the E., and brushing the S. extremity of the great bank of Newfoundland, it continues in that direction as far as 43° or 44° W. long., between 37° and 43° N. lat. Farther E. it bends to the S.E. and S.; and having inclosed the islands of Flores and Corvo, belonging to the group of the Azores, it is lost in the ocean. There are some instances on record of the warm water of the gulf stream having advanced to the very shores of Spain and Portugal. The strongest current is between 38° and 39° N. lat.; and it is probable that the breadth of the whole current does not exceed 120 naut. m., though the warm water is found to be 200, 250, and even 320 m. across. Between 65° and 66° W. long. the strongest current runs from 55 to 56 m. a day; but 900 m. farther E., only from 30 to 33 m. In the neighbourhood of the Azores its mean rate does not exceed 10 m. a day. The temperature of its water decreases less rapidly. At the meridian of 63½° W. long., or 600 nautical m. from Cape Hatteras, the thermometer shows in summer 81°, or from 10° to 11° above the water of the sea under the same lat. At 73° long. its temperature is 75°; and even at Corvo, not lower than 72½°, or from 8° to 10° above the ocean. The length of the gulf stream from the Salt Keys to the S. of the Azores is upwards of 3,000 naut. m. It traverses from 19° to 20° of lat. (from 23° to 42° or 43°), and its temperature decreases only 13½° (from 86° to 72½°). The sea which is traversed by it is subject to nearly continual gales; especially towards the outer edges of the current.

Nearly in the middle of the Atlantic the gulf

stream is joined by the *Arctic current*, which originates beneath the immense masses of ice that surround the pole, and thence runs in a S.W. direction along the E. shores of Greenland, carrying with it a great number of icebergs, ice-fields, and ice-floes. Pressing these icy masses against the coast of Greenland, the current renders that coast inaccessible; but it prevents the ice from spreading over the North Sea, and from encumbering the shores of the British islands. At Cape Farewell the width of the current seems to be from 120 to 160 m., the ice-masses extending to such a distance from it. After passing Cape Farewell, the current bends to the N. and enters Davis's Strait, running along the western coast of Greenland up to the Polar Circle, where it crosses the strait to Cape Walsingham (about 66° N. lat.); hence it flows southward along Cumberland's Island to Frobisher's and Hudson's Straits. Opposite these straits it runs from 15 to 16 m. a day. Approaching Newfoundland, the current divides: one branch, running through the strait of Belle Isle, mixes with the waters brought down by the St. Lawrence; whilst the other skirts the E. shores of Newfoundland, where it passes between the great and the outer bank of Newfoundland (between 45° and 46° lat., and 46° and 47° long.), and at last joins the gulf stream between 44° and 47° W. long. The width of this current, probably, nowhere exceeds 200 m.; the temperature of its water is always considerably lower than that of the ocean, sometimes as much as 16° or 17°.

The last current we have to notice, is the *South Atlantic current*, which traverses the ocean from E. to W. between 30° and 40° S. lat. In the W. part of the Atlantic its velocity seems to be moderate; but it increases as the current advances farther E., and opposite the Cape it is very strong. It is met with at a distance of from 150 to 180 m. from the Cape; hence it flows in a straight line into the Indian Ocean, and traces of it are found 2,000 m. beyond the Cape. That space of sea which intervenes between this current and the Cape, is occupied by another current, which runs in an opposite direction; being formed in the Indian Ocean by two currents which descend on both sides the island of Madagascar, and unite between the first point of Natal and Cape Recife, about 33° S. lat. Passing the Cape of Good Hope, it enters the Atlantic as a current, running at the rate of from 1 or 1½ m. an hour in a N.W. direction, and may be traced as far as 25° S. lat. This current is called the *Agulhas current*, from passing over the bank of that name at the S. extremity of Africa.

Tracks of Vessels.—In proportion as our knowledge of the prevailing winds and of the strength and direction of the currents has increased, the tracks have been fixed with more precision, which vessels should follow in sailing from or to a country lying on the shores of the Atlantic. In a few cases they follow the same route, whether outward or homeward bound; but in most cases they follow different routes. We shall notice a few of those which are most frequented.

1. Between *Europe* and the *W. coast of N. America* vessels keep clear of the gulf stream, sailing along its N. border, between 44° and 50° N. lat. If, in sailing from E. to W., they were to enter the gulf stream and to stem its current, they would be delayed in their course, perhaps, not less than a fortnight. If, in sailing from W. to E., they were to enter it, they, doubtless, would arrive four or five days sooner in Europe; but the vessels would suffer, from the continual gales which prevail within the borders of the stream, so much damage in wear and tear, that it hardly could be

compensated by the gain of a few days. In sailing to the United States N. of the gulf stream, vessels have the advantage of a counter current, which runs from the Nantucket and St. George Banks to Chesapeake Bay, and perhaps to Cape Hatteras.

2. In sailing from *Europe* to the *West Indies* and the countries S., W., and N. of the Columbian Sea, different tracks are followed, outward and homeward. In sailing from *Europe*, the trade-winds are taken advantage of. The vessels pass Madeira and the Canary Islands, and sail S. as far as 21° N. lat., where they are certain to find a constant trade-wind. In this course they must avoid approaching too near the coast of Africa between Cape Nun and Cape Blanco, because the N. African current sets in towards the shores of the Sahara, and the winds blow continually from the sea towards the land. Many navigators who hoped to make the island of Teneriffe, according to their dead reckoning, have been carried so far to the E., that they have been cast on these inhospitable shores, where most of them have perished. Between 1790 and 1805, not less than thirty vessels are known to have been thus lost; and it is supposed that many others had the same fate, without its being known. Having got a constant trade-wind at 21° N. lat., the vessels sail W., and enter the Columbian Sea, commonly by one of the straits lying between the islands of Martinique and Trinidad.

In sailing homeward ships sometimes go through the Mona (between Puerto Rico and Haiti) and windward (between Haiti and Cuba) passages; but more commonly they pass round the island of Cuba on the W., and sail through the Straits of Florida. As soon as they have got clear of the strait, they sail E. to get clear of the gulf stream. They then direct their course across the Atlantic, S. of the Bermudas, till they come into the longitude of the island of Flores. They then sail N., either passing between Flores and the other Azores, or to the E. of the group.

3. In sailing from *Europe* to the coast of *Guyana* (Demarara, Surinam, and Cayenne), and to those provinces of Brazil which are situated W. of Cape St. Roque, ships go S. till they meet the trade-wind, and then shape their course to the place of destination, but keeping a few degrees farther to the E.; for, on approaching the New Continent, they meet the Guyana current, which carries them W. If, therefore, they make land somewhat too far to the W., they find it very difficult to attain their place of destination,—having to bear up against the current.

In returning to *Europe*, the vessels sail along the shores of America, where they are favoured by the Guyana current, as far as the island of Trinidad. Then they keep to the windward of the Antilles, till they get into the variable winds, where they follow the track of the vessels returning from the W. Indies.

4. Sailing from *Europe* to S. America, S. of Cape St. Roque, ships have to pass through the region of calms, and to traverse the equatorial current. The first retards their progress, and the second carries them forcibly to the W. If they cut the equatorial line W. of 25° W. long., they cannot make Cape St. Roque, and fall in with the Guyana current, which carries them still farther W., and along the N. coast of Brazil. Then they can only get back to Cape St. Roque by a toilsome voyage of many days, and even weeks. To avoid this, vessels traverse the line between 18° and 23° W. long. Having done this, they are assisted by the Brazil current in making, with ease, any part of the coast they please.

Vessels homeward bound from this coast take different tracks, according to the seasons. From March to September, when the monsoons blow, and the currents run, from S. to N., between the Brazil current and the continent of S. America, they sail along the shores, till, at Cape St. Roque, they meet the Guyana current; and then they follow the track of the vessels returning from Guyana to *Europe*. But, from September to March, the periodical winds and currents blow and run from E. to SW., in the direction of the Brazil current. Ships then sail across the currents, and try to get into the middle of the Atlantic, where they follow the track of the vessels returning from the East Indies.

5. In sailing to the *East Indies*, it is now the general practice to avoid the numerous difficulties met with in navigating along the coasts of Africa, S. of the equator, and to follow the tracks of the vessels bound to Brazil. Afterwards, the vessels proceed along the coast of S. America to 32° or 38° S. lat., where they get out of the range of the SE. trade-winds, and are certain to meet with the S. Atlantic current, which carries them eastward. They do not touch at the Cape of Good Hope, but follow the current until they enter the Indian Ocean.

In returning from the East Indies to *Europe*, vessels enter the Agulhas current near Madagascar, and are carried by it to the Cape of Good Hope, where they commonly stop for some time. From the Cape, the same current takes them by its NW. course to the middle of the Atlantic. They then shape their course N., so as to traverse the line between 22° and 24° W. long., where they meet the NW. current, which takes them to 20° or 25° N. lat., whence they proceed to the Azores.

Ice.—Both extremities of the Atlantic Ocean are invaded by great masses of ice. They either have been detached from the enormous masses which inclose the poles to a great distance, or from those countries which are situated so near the poles, that their coasts are covered with ice for the greater part of the year. In the N. seas the ice consists of icebergs, ice-fields, and ice-floes. The icebergs are enormous masses of ice, sometimes several hundred and even thousand yards long and broad; their summits being, in some cases, 100 ft. and more above the level of the sea, though only a seventh part of the whole mass rises above it. They are properly glaciers, formed along the high and snow-covered coast of Greenland, and which have afterwards been precipitated into the sea. The ice-fields and ice-floes are considered as having been detached from the ice surrounding the pole. This ice is commonly of the thickness of from 20 to 80 ft., and rises from three to four ft. above the sea. These masses are called fields whenever they are so extensive that their limits cannot be discovered from the mast-head; and floes, when their extent may be overlooked from it. In the S. Atlantic only, fields and floes are found, icebergs never having been met with. It is further worth remarking, that the ice advances much nearer to the N. than to the S. tropic. The ice-floes at Cape Horn are far from being numerous; and Capt. Weddell says that at $55^{\circ} 20'$ S. lat. there is no fear of falling in with ice. In the N. hemisphere, we always find great ice-masses at some distance from the E. shores of Newfoundland, from January to May and June; and icebergs are annually seen grounded on the Great Bank. It even sometimes happens that icebergs are met with in the gulf stream, 40° N. lat. and 32° W. long., as was the case in 1817.

Miscellaneous Remarks.—Fish seem to be much more plentiful in the seas near the arctic, than in those surrounding the antarctic, pole. This is probably to be accounted for by the greater number and greater extent of banks found in the N. seas; and these, besides, wash a far greater extent of shores, which many species of fish resort to in quest of food. Another remarkable fact is, that the seas near the equator, and, in general, those lying in lower latitudes, are much richer in species than the N. parts of the ocean; but that, in the latter, the number of individuals belonging to each species is far greater. Hence we find that the most extensive fisheries are those which are carried on to the N. of 45° N. lat.; as the cod fisheries on the Great Bank of Newfoundland, and at the Laffoden Islands, the whale fishery at Spitzbergen and on both sides of Greenland, the herring fishery along the coasts of Great Britain, and the pilchard fishery in the British Channel. The most important fisheries S. of 45° , if we except the whale fishery near the S. pole, seem to be that in the Caribbean Sea along the coasts of Venezuela, and that which the inhabitants of the Canary Islands carry on in the sea surrounding Cape Blanco in Africa.

The temperature of the water is greater in the N. than in the S. hemisphere. In the seas N. of the equatorial current, the thermometer indicates 80° or 81° , and S. of it 77° and 78° , at the time when the sun approaches the line. This difference may, perhaps, be satisfactorily accounted for by the sun's remaining annually seven days longer to the N. than to the S. of the equator.

The specific gravity and saltiness of the sea-water is, doubtless, greater near the equator than in the vicinity of the poles; but the experiments which have been made to determine the exact difference have given such different results, that we must still consider this question as undecided. According to Capt. Scoresby, the specific gravity of the sea-water near the coasts of Greenland varies between 1.0259 and 1.0270. Between the tropics, some have found it 1.0300, or nearly this much; and near the equator, even 1.0578, but the last statement is, with reason, regarded as doubtful.

In a part of the Atlantic, the *gulf-weed*, or *fucus natans*, occurs in great quantities. This region extends nearly across the whole ocean, beginning on the E. at the 30th meridian, and terminating on the W. in the sea washing the E. side of the Bahama Bank. In width, it occupies the whole space between 20° and 30° N. lat.; but the whole extent of the surface between these lines is not equally crowded with weed. The most crowded part extends between 30° and 32° W. long.; where, in the neighbourhood of the island of Flores—one of the Azores—it forms first only a small strip; but farther to the S. expands to a great width. In this part of the Atlantic, which is called by the Portuguese, *Mar de Sargasso* (Weedy Sea), the fucus covers, like a mantle, far and wide, the surface of the sea, extending from N. to S. more than 1,200 m. Another part of the sea, covered with fucus in a very crowded state, occurs between the meridians of 70° and 72° , and the parallels of 22° and 26° , towards the W. end of the region. The sea lying between these two crowded districts is, in some parts, only lightly strewed with sea-weeds; but in others it occurs in dense masses.

An attempt to sink a telegraph cable in the Atlantic, between the shores of Ireland and Newfoundland, was made in 1858. The work was completed on the 5th of August of this year, and, according to official reports, a message through this cable was actually sent from Europe to Ame-

rica, and a reply returned, on the 22nd of August. However, electricity, after this first faint essay, refused to run its desired course, and the work had to be abandoned. Still less fortunate was a second attempt, made in the summer of 1865, to submerge a stronger cable, $1\frac{1}{2}$ inch in thickness. The loss of this cable, some thousand miles from the shores of Europe, led to a postponement of the great undertaking.

ATLAS (MOUNT), according to Herodotus, was a single isolated mountain of great elevation, on the W. coast of N. Africa. This information was probably obtained from the first navigators of these seas, who observed the elevated mountain which forms at Cape Geer ($30^{\circ} 40'$ N. lat.) the western extremity, and as it were the gable-end, of that extensive range now comprised under the name of Mount Atlas.

The principal and highest range of Mount Atlas is that which begins at Cape Geer (near 10° W. long.), and extends E., with a slight declination to the N., as far as 5° W. long., where it approaches 32° N. lat. As to cross it requires two days' journey, its width may be estimated at from 30 to 40 m. Its height nowhere seems to exceed the snow-line; for its highest summit, the Miltasin, 27 m. SE. from the town of Morocco, has been measured by Lieut. Washington, and found to have an elevation of 11,400 ft. above the sea. It is only once in about twenty years free from snow. During the winter months the N. declivity of this range is frequently covered with snow for several weeks. This is not the case with the S. declivity, turned towards the great African desert (the Sahara), and towards the hot winds blowing from that quarter, and snow falls rarely there, even on the highest summits. The whole range is called by the natives Djibbel Telge, that is, the Snow Mountains.

From the E. extremity of the Djibbel Telge a chain branches off on the S. side, which runs in a WSW. direction, and terminates with low hills on the Atlantic sea at Cape Nun. According to Jackson, it contains a snow-capped summit, E. of Elala, but its mean elevation does not appear very great. Between this range and the Djibbel Telge lies the province of Suse. Along the S. base of this range runs the river Dräh, which reaches the sea about 32 m. S. of Cape Nun.

At about 5° W. long. and 32° N. lat., the chain forms a mountain-knot, from which issue two ranges, one running a little to the E. of N., and the other first NE. and then E. The range which runs a little to the E. of N. continues in that direction from 32° to $34\frac{1}{2}^{\circ}$, where at a distance of about 80 m. from the Mediterranean, it divides into two ridges, which hence run along the Mediterranean Sea, in opposite directions, the W. terminating on the peninsula forming the Straits of Gibraltar, at Cape Spartel, and the E. continuing through the whole of Algiers, and terminating at Capes Blanco and Zibeeb, on the strait separating Sicily from Africa. The undivided range (bet. 32° and $34\frac{1}{2}^{\circ}$) is called by the Europeans Greater Atlas, and by the natives Djebbel Tedla or Adtla. The chain which extends W. to Cape Spartel, is commonly named the Lesser Atlas; by the natives, Errif, that is, the Coast Mountains. The highest part is hardly anywhere more than 15 or 20 m. distant from the sea; but in numerous places its branches occupy the whole space lying between it and the elevated shores; it forms the capes of Tres Forcas, Quilates, Negro, and Centa. Its mean elevation hardly exceeds 2,000 ft.

The chain which skirts the Mediterranean from 3° W. long. to 10° E. long., or to Cape Blanco, has no general name. The distance of the highest part

of the range from the sea varies between 10 and 30 m., but at numerous points the coast itself is fringed by mountains of considerable elevation, which are parts of the great masses lying behind them. No level country of any extent occurs along the shores, except the Plain of Metidjah, E. of the town of Algiers. This range is of greater elevation than the W. Shaw states that the higher portions of it are covered with snow a considerable part of the year; and the French naturalist Desfontaines estimated their height at 7,200 ft. But the highest points have lately been measured, and one has been found to rise 5,124 ft., and another 6,729 ft. only above the sea. E. of 5° E. long. the mountains in the interior seem to be much lower than farther W., but some high summits occur on the coast very near the sea. This chain is at several places broken down, and it is by these wide chasms that the most considerable rivers of Northern Africa find their way to the Mediterranean Sea, as the Mulwia, Shellif, Isser, Sumein, Wad el Kebir, Seibous, and Mejerdah.

The mountains in which these rivers have their origin are very imperfectly known, even as respects their geographical position. It is supposed that they form the continuation of the ridge which branches off from the mountain-knot at 5° W. long. and 32° N. lat. towards the NE., but afterwards by degrees declines to the E. East of the meridian of Greenwich, its principal masses seem to lie near the parallel of 35° N. lat. and to extend eastward to the meridian of 10°. Between this range and the more southerly one, lie wide valleys and plains of moderate extent but of great fertility; they have a temperate climate, and constitute the best portion of the countries embosomed within the range of Mount Atlas. The height of the range to the S. does not equal that lying N. of the valleys, though it occupies a greater width. Among the natives a great portion of it is known under the name of Djebbel Amer, or Lowart.

The country extending south of this range is called Sahara by the natives, which is the land of the steppe. It partakes in some respects of the character of the Great Desert, but differs widely from it in others, and must be considered as belonging to the system of Mount Atlas. This country presents a succession of flat-backed ridges of moderate elevation, but considerable breadth, running commonly E. and W. The lower grounds by which they are separated from each other, are completely closed valleys or plains of moderate extent, each of which has a temporary or permanent lake in its lowest part, the receptacle of the waters that flow down from the adjacent high grounds during the rains. The surface of this extensive country is composed of a sandy soil, entirely destitute of trees, and, in most parts, even of every kind of vegetation, at least during the dry season. But along the water-courses extensive plantations of date trees exist; hence the country has received the name of Bled-el-jereed, or the country of dates. In most districts the water is salt or brackish; but in parts potable water may be obtained in abundance by digging wells to the depth of 100 and sometimes 200 fathoms. This country extends S. to the very borders of the Great African Desert, and extends eastward far beyond 10° E. long.

Our knowledge of the roads traversing this mountain system is very scanty. It is believed that only two passes, Bebawan and Belavin, exist between the province of Suse and the country N. of the Atlas. Farther E., between 5° and 4° W. long., lies the great caravan road, on which the commerce between Fez in Morocco, and Timbuctoo in Soudan, is carried on. It traverses the dis-

tricts of Tafflett and Drah, and is connected with the great caravan road leading to Mecca, which branches off from the former between 32° and 33° N. lat., not far from the sources of the river Mulwia. The principal stations of the caravans within the Atlas mountains are named Kasabi or Aksabi Shurefa, Tiz Fighig, Gardeia, and Wurglah, all of which are situated near the S. borders of the mountain system. From Wurglah the road passes to Gadames, and hence to Murzook in Fezzan.

We are very imperfectly acquainted with the mineral riches of the Atlas; the precious metals seem only to occur in the province of Suse, and not in abundance, at least no mines are worked. But copper is plentiful in the principal range S. of the town of Morocco, where it is worked by the natives who inhabit the mountains, and who are in a great measure independent of the sultan of Morocco. Iron of good quality occurs in many places, and is worked in few, as is likewise lead: antimony in abundance is found and collected in the range of Tedla. Rock-salt is also plentiful, but not worked, because salt may be obtained with less labour by evaporating sea-water. Saltpetre of a superior quality abounds in some districts of Suse, and in the neighbourhood of the town of Morocco; fuller's earth is abundant and of good quality.

Mount Atlas is inhabited by a nation which must be considered as aboriginal, having probably been in possession of N. Africa long before the beginning of our historical records. It is known under the name of Berebers, or Berbers; though it seems that this denomination is entirely unknown to themselves. This nation, which still forms the bulk of the pop. of N. Africa, including nearly the whole of the Sahara, is divided within the limits of Mount Atlas into two great tribes, the Amazirghes, or Mazirghes, and the Shelluha. The latter occupy the two high western ranges, including the province of Suse; and the Amazirghes the remainder. It has long been a question, whether these two nations speak only different dialects of one language, or two essentially different languages; but a learned traveller, Graberg de Hemso, who published a work on the empire of Morocco, with perfect knowledge of the languages, states that they are substantially the same, the difference between them being not greater than that between the Portuguese and Spanish, or the English and Dutch languages. Both nations, however, differ in their manner of life and occupations, the Shelluha living in houses, cultivating the fertile valleys of the mountain ranges, and applying themselves with assiduity and success to several mechanical arts; whilst the Amazirghes dwell in tents or caverns, attending only to their numerous herds of cattle and sheep. Only a few individuals of these nations are subject to the emperor of Morocco and the French rulers of Algiers. Those inhabiting the mountains have preserved their independence, and are governed by independent chiefs. They are frequently at war with the sovereigns in whose territories their possessions are included. Among both nations a considerable number of Jews are settled.

The most exaggerated notions were early entertained of the height of Mount Atlas. Mela says of it, *In arenis mons est Atlas, dense conurgens, verum incisus undique rupibus, præceps, inivus, et quo magis surgit, exilior, qui, quod altius quam conspici potest, usque in nubili erigitur, cælum et sidera non tangere modo vertice, sed sustinere quoque dictus est.* (lib. iii. s. 10). This supposed extraordinary height of the mountain, and the ignorance that prevailed in the earlier ages of the contiguous countries, afforded full scope for the exercise of the imagination. The poetical history of Atlas

may be seen in Ovid (*Metamorph.* lib. iv. line 656), and is referred to by Virgil in one of the finest passages of the *Æneid*, lib. iv. line 246.

ATRI, or ATRIA, a town of Southern Italy, prov. Teramo, 6 m. from the Adriatic, and 11 m. N. by E. Civita Penne, on a steep mountain. Pop. 10,125 in 1862. The town is the seat of a bishopric, has a cathedral, parish church, several convents, a grammar school, two hospitals, and a *mont-de-piété*.

This is a very ancient city, and instead of the Venetian Adria, it has been supposed to have given its name to the Adriatic; but the weight of authority and probability is against this supposition; its origin is, however, undetermined, or lost in obscurity. Some extraordinary excavations exist in a hill near the town, forming a series of chambers, distributed with such regularity as to authorise the notion that they were designed for some particular object, such as prisons or magazines. These peculiarities have suggested the idea that they are of a more remote construction than the *Lathomia* at Syracuse, which they much resemble, or than the celebrated prisons of Servius Tullius at Rome. Some antiquaries have supposed, not without considerable plausibility, that the word *Atrium* must have been derived from these excavations. The town received a Roman colony about the year 465 u.c. It seems to be generally allowed that the Emperor Adrian was descended of a family originally of this city.

ATRIPALDA, a town of Southern Italy, prov. Avellino, on the Sabato, 2 m. E. Avellino. Pop. 5,003 in 1862. The town has a collegiate and a parochial church, with fabrics of cloth, paper, and nails.

ATTERCLIFFE, a township in the par. of Sheffield, which see.

ATTICA, in antiquity, the most celebrated region of Greece, and the seat of its most renowned people, now part of the monarchy of Attica and Boeotia, and forming the eparchy of Athens. It lies between lat. $37^{\circ} 39'$ (Cape Colonna), and $38^{\circ} 22' N.$, and long. $23^{\circ} 20'$ and $24^{\circ} 5' (C. Marathon)$ E., having N. Boeotia, E. the *Ægean Sea*, S. and SW. the Gulf of Egina (*Saronic G.*), and W. the eparchy of Megara: shape triangular, the base to the NW.: length 44 m.; breadth about 34 m. Pop. of the modern monarchy 87,223 in 1851, and 116,024 in 1861. Attica owed all its ancient glory to the industry and genius of its inhabitants. Soil mostly rugged, the surface consisting of barren hills, or plains of little extent. The chief mountains are Nosesa (*Parnes*), the loftiest; *Elatea* (*Cithæron*), and *Manglia*, which form its N. boundary; *Mendeli* (*Pentelicus*), famous for its marble; *Vrelo-vuni* (*Hymettus*), and *Laurini* (*Laurion*), famous for its silver mines. The most remarkable plains are those of Athens and Marathon; rivers, the *Sarandaporo*, *Cephissus*, and *Ilissus*. The produce of Attica differs remarkably from that of Boeotia; it is deficient of water, and yields little grain except barley; its pastures are but few, and its spontaneous vegetation consists mostly of evergreens, as the pine, *prinari*, olive, myrtle, &c. *Parnes* is covered by a forest, and supplies Athens and the surrounding country with fuel; *Hymettus* abounds with lentisks, wild thyme, and other odoriferous plants; its honey still enjoys some portion of its ancient fame; and its mutton has a delicious flavour. The oil is equal to that of France: what corn is produced is very good, and the harvest takes place earlier than in any other part of Greece. Game is very abundant, and wolves, wild boars, and a few bears are met with in the N. Owls, especially the small grey owl (*Strix passerina*), still inhabit the vicinity of Athens in great numbers;

but luckily there are remarkably few venomous reptiles or insects. The chief mineral treasures are marble, white at *M. Pentelicus*, and grey at *M. Hymettus*; the anc. silver mines of *Laurium* are no longer productive. Air pure and healthy; and though the country is in many parts dreary and uncultivated, the summits of the mountains afford sublime views, embellished by numerous classical remains, associated with imperishable and ennobling recollections. Every hillock of Attica appears to have been dedicated to gods or heroes, and decorated with their altars and statues, the ruins of which are often clearly traceable. It originally contained 174 demi or boroughs; it now possesses no town of any importance, except Athens; its villages are mostly inhabited by Albanians.

ATTLEBOROUGH, a m. town and par. of England, co. Norfolk, hund. Shropham, $15\frac{1}{2}$ m. SW. Norwich, and 110 m. from London by Great Eastern railway. The par. contains 5,800 acres, and 2,221 inhab. acc. to the census of 1861. The town, formerly a place of some importance, is now decayed and inconsiderable.

ATTOCK (*Atac*, a limit), an. *Varanas*, a fort and town of the Punjab, Hindostan, on the E. bank of the Indus, in lat. $83^{\circ} 56' N.$, long. $71^{\circ} 57' E.$, 42 m. ESE. Peshawer, and 236 m. NW. Lahore. The modern fort stands on a low hillock beside the river; it is of an oblong form; its shortest faces parallel to the river, being 400 yards in length, and the others twice as long. The walls are of polished stone, and the whole structure is handsome; but in a military point of view it is of little importance, being commanded by a hill, from which it is divided only by a ravine. Estimated pop. of town 3,000. On the opposite side of the river is a small village, having a fort erected by Nadir Shah, and a fine aqueduct built by some former *Khuttuk* chief. The Indus is here 200 yards broad, the channel deep, and the current rapid, but so tranquil that a bridge might be thrown over it; and it is easily passed both in boats and on the inflated hides of oxen, a contrivance common here and as old as the days of Alexander the Great, who is believed to have crossed the Indus at or near this point.

AUBAGNE, a town of France, dep. Bouches du Rhone, cap. cant., on the *Veaume*, 10 m. E. Marseilles, on the railway from Marseilles to Nice. Pop. 7,232 in 1861. Aubagne consists of an old and a new town; the former built on the declivity of a hill, and the latter at its foot. In the first, the houses are small, and the streets narrow and dirty, but in the new part the houses are good, and the streets broad and well kept. It has fabrics of earthenware and paper, and tanneries; and several fairs are held in it, for the sale of horses, mules, and jewellery.

AUBE, an inland dep. of France, SE. Paris, between $47^{\circ} 55'$ and $48^{\circ} 42' N.$ lat., and $3^{\circ} 24'$ and $4^{\circ} 48' E.$ long., having N. dep. of Marne, E. Haute Marne, S. Côte d'Or and Yonne, and W. Seine et Marne. Area, 600,139 hectares, or 2,393 English sq. m. Pop. 264,247 in 1851, and 262,785 in 1861. The department is traversed by the Seine, which is navigable from Troyes, and also by its important affluent the Aube, whence the dep. has its name; the latter is navigable from Arcis-sur-Aube. Surface generally flat, but in the NW. quarter there are some low hills. The soil of the region to the N. and W. of Troyes consists of chalk thinly covered with mould, and is exceedingly barren and unproductive, a great part of it not being worth cultivation. The subsoil of the other portion, or that to the E. and S. of Troyes, also consists of chalk; but being for the most part thickly covered with alluvial deposit, produces luxuriant crops of

corn, hemp and turnips. Agriculture has made considerable progress since the revolution, particularly as respects the culture of turnips, and the formation of artificial meadows. Oxen as well as horses are employed in field labour. The annual produce of wool is estimated at 220,000 kilogs. A great number of hogs are fattened. The meadows in the valleys of the Seine, Aube, and Armance annually supply about 2,000,000 quintals hay, about one-third part of which is sent to Paris. The forests in some parts are pretty extensive, but in the barren chalk region there is a great want of trees. The best wines are those of Ricey, Bac, Bouilly, Javernant, and Laines-aux-Bois. According to the official tables, the principal divisions of the soil are—cultivable land 894,000, meadows 37,500, vineyards 23,000, woods 80,000, heaths, moors, &c. 22,000 hectares. Excepting chalk and marble, the minerals are unimportant. The manufacture of cotton stuffs and yarn, hosiery, and woollen stuffs, is extensively carried on, and about 2,500 looms and 3,500 workpeople are employed in the weaving of stockings. The establishments for spinning wool, produce annually about 400,000 kilogs. of yarn; and those for spinning cotton put in motion 68,000 spindles, employing from 2,700 to 3,000 workpeople, and furnish annually 500,000 kilogs. of yarn. There are also tanneries, works for the preparation of beet-root sugar, glass-works and tile-works. With the exception of Troyes, the *chef-lieu*, or capital of the department, none of the other towns are of much importance. The department is divided into five arrondissements, viz., Troyes, Arcis-sur-Aube, Bar-sur-Aube, Bar-sur-Seine, and Nogent-sur-Seine, and subdivided into twenty-six cantons and 447 communes. The ecclesiastical affairs are under the bishop of Troyes, suffragan of the archbishop of Sens.

AUBEL, a town of Belgium, prov. Liege, 5 m. N. Verviers. Pop. 3,050 in 1856. It has a good weekly market, and a considerable trade in butter and cheese.

AUBENAS, a town of France, dep. Ardèche, cap. cant., near the Ardèche, at the foot of the Cevennes, 13 m. SW. Privas. Pop. 8,529 in 1861. The town is beautifully situated on the slope of a well-wooded hill, and is surrounded by the ruins of an old wall flanked with towers. The interior of the town, however, by no means corresponds with the beauty of its situation, its streets being generally crooked, narrow and filthy, and the houses ill-built. Aubenas is the seat of a tribunal of commerce, and has manufactures of cloth, filatures and fabrics of silk, and establishments for the dressing of leather. It is the great mart for the sale of the wines and chestnuts of the dep., and has also a considerable trade in raw and wrought silk, wool, and cotton.

AUBERVILLIERS, or *Nôtre-dame-des-Vertus*, a village of France, dep. Seine, a little to the N. of Paris. Pop. 6,098 in 1831. The inhabitants are principally employed in the raising of garden stuffs for the supply of Paris.

AUBIGNY, a town of France, dep. Cher, cap. cant., on the Nère, 28 m. N. Bourges. Pop. 2,654 in 1861. The town is old and ill-built. It has manufactures of coarse cloth, linsey-woolsey, serges, &c., and is the centre of a considerable trade in wool. Aubigny, with its lordship, was erected into a duchy in 1684, in favour of the Duchess of Portsmouth and her son, the Duke of Richmond.

AUBIN-DE-CORMIER (ST.), a town of France, dep. Ille et Vilaine, on a steep hill, 16 m. NE. Rennes. Pop. 2,098 in 1861.

AUBIN (ST.), a town of France, dep. Aveyron, cap. cant., 18 m. NE. Villefranche, on a branch of

the Southern railway. Pop. 7,856 in 1861. In the environs of this town are the burning mountains, or rather hills, of Fontagnes and Buegne, in which subterranean fires have been in action for ages. The smoke and other vapours produced by the fires deposit on the sides of the crevices of the rocks and earth, by which they make their escape, large quantities of imperfect alum and sublimated sulphur. The alum crystals being collected and refined furnish excellent alum, sufficient for the supply of France.

AUBIN (ST.), a finely situated sea-port town of the island of Jersey, opposite to St. Heliers, on the W. side of the bay on which the latter is built. Pop. 2,070 in 1861. The town consists principally of a single street of well built houses. There is a harbour formed by a pier, but it is deficient in water; but the largest ships may anchor inside the pier at St. Aubin's Castle, in the vicinity.

AUBONNE, a town of Switzerland, cant. Vaud, on the Aubonne, 14 m. W. by S. Lausanne, on the railway from Lausanne to Geneva. Pop. 1,734 in 1860. The castle of Aubonne, which commands a very fine view, was built by the counts of Gruyère, and repaired by Tavernier, the celebrated traveller, to whom it belonged, in the seventeenth century. The heart of Duquesne, one of the most celebrated naval officers of France, is interred in the parish church, where a monument has been erected to his memory.

AUBURN, a town of the U. States, N. York, co. Cayuga, at the N. end of Owasso Lake, 169 m. NW. Alban, and 814 m. NW. New York. Pop. 12,100 in 1860. The streets are wide and macadamised, having numerous lofty buildings of brick and dressed limestone. Auburn is principally celebrated for its state prison, founded in 1816. This is a very extensive building, and has been conducted, since 1828, on what has been called the 'silent, or Auburn plan,' that is, on the plan of confining the prisoners to separate cells during the night, and making them work together during the day, taking care to enforce, when they are together, the strictest silence. The prison was at first conducted on the system of solitary confinement, which not being found to answer, the present system was established in its stead. Exclusive of the state prison, there are at Auburn a county prison, built in 1833; a Presbyterian theological seminary, incorporated in 1820, with a good library; a college, founded in 1836; a court-house, with numerous places for public worship.

AUBUSSON, a town of France, dep. Creuse, cap. arrond., on the river of that name, 20 m. SE. Gueret. Pop. 6,008 in 1861. The town is picturesquely situated in a sterile country, in a narrow gorge, surrounded by rocks and mountains. It consists of one long street of good houses; has a theatre, and an agricultural society. The carpet manufacture of Aubusson is the most celebrated in France, after that of the Gobelins and Beauvais. It was formerly, however, much more extensive than at present. In the early part of the seventeenth century the town is said to have contained 12,000 inhabitants, of whom upwards of 2,000 were directly employed in the carpet trade. But being mostly Protestants, the revocation of the edict of Nantes, by making the greater number emigrate to foreign countries, gave a blow to the manufacture, from which it never recovered. In 1780, it employed about 700 workpeople. It languished for a long time after the revolution; but within the last dozen years it has materially improved, and at present it employs a greater number of hands than in 1780.

AUCH, a city of France, dep. Gers, of which it is the cap., on the left bank of the Gers, and on the railway from Agen to Tarbes. Pop. 11,900 in 1861. The town stands on the plateau and declivity of a hill, which gives it at a distance a fine appearance. A considerable suburb is built on the opposite side of the river, the communication with it being kept up by a bridge. It is the seat of a court of assize, of tribunals of commerce and original jurisdiction, and of an archbishopric; and has a royal college, a primary normal school, a theological seminary, a school of design, an agricultural society, a museum, and a public library with about 5,000 volumes. Notwithstanding modern improvements, Auch is still generally ill-built, and the streets, though clean, are narrow and crooked. The best part of the town is on the summit of the plateau. There is here a magnificent promenade upon an elevated terrace of great extent, finely shaded, and commanding an extensive view over the neighbouring country as far as the Pyrenees. Principal public buildings, the cathedral and the hotel of the prefecture. The former is one of the most magnificent in France; but though taken as a whole it is admirable, its parts are not a little incongruous, the principal part of the building being Gothic, while the front and some other portions are Greek. The different parts of the interior are exceedingly well proportioned. The hotel of the prefecture, formerly the archiepiscopal palace, is a vast and noble building. There is also (in the suburb) an immense hospital, with a town-house and barracks. Auch has manufactures of thread and cotton stuffs, coarse cloths, with tanneries, and establishments for the spinning of wool. A considerable trade is carried on, particularly in the brandies of Armagnac.

Auch is a very ancient town. Before the Roman conquest it was called *Climberis*, and was the capital of the *Ausci*. Augustus having planted in it a Roman colony, it took the name of *Augusta-Auscorum*, whence its modern name has been derived. The old city stood on the right bank of the Gers, on the site of the present suburb. The modern city is, however, very ancient, having been founded previously to the reign of Clovis.

AUCHTERADER, a town of Scotland, co. Perth, on the S. bank of the Earn. Pop. 2,844 in 1861. The town, which is nearly 1 m. in length, consists of a single street on both sides the high road from Glasgow to Perth, being about 14 m. W. by S. from the latter, and having a station on the Scottish Central railway. The town is principally occupied by cotton weavers in the employment of the Glasgow manufacturers. At one time it returned members to the Scotch parliament, and it is uncertain how or when it lost the privilege. At present it is the seat of a Presbytery. It was burned down by the Earl of Mar, in 1718, and has no building worth notice. The agriculture of the parish has been greatly improved within the present century.

AUCHTERMUCHTY, a royal burgh and par. of Scotland, co. Fife, the town being situated on the high road from Kinross to Cupar, 9 m. W. the latter, on the Edinburgh-Perth railway. Pop. of town 1,215, and of suburbs 1,223 in 1861. The town is intersected by a rapid streamlet, employed to turn flax and other mills, and to supply a bleach-field. It is very irregularly built, but contains a fair proportion of good substantial houses. The inhabitants are principally employed in the weaving and spinning of linen and cotton, especially the former. It was created a royal burgh by James IV., but has never enjoyed the privilege

of voting in the return of a m. either to the Scotch or British parliaments.

AUDE, a maritime dep. in the S. of France, on the Mediterranean, separated from Spain by the dep. of the Pyrenees Orientales. Area, 606,307 hectares, or 2,246 English sq. m. Pop. 289,747 in 1851, and 353,633 in 1861. The Aude, whence it derives its name, is the only considerable river in the dep.; but it is traversed from E. to W. by the canal of Languedoc. The coast along the Mediterranean is mostly low, and is bordered by several lagoons, or, as they are called in the language of the country, *étangs*, or ponds. At the mouth of one of them is La Nouvelle, the only port in the dep. Surface generally hilly and mountainous, being encumbered on the N. with the *Montagne Noire*, a prolongation of the Cevennes, and on the S. with ramifications of the Pyrenees. The highest summit of the latter, the *Pic Mosset*, rises about 8,000 feet above the level of the sea; the highest point of the *Montagne Noire* is about 3,900 feet above the sea. Soil of the plains and valleys generally calcareous and very productive. Climate variable, and principally distinguished by the prevalence of hot winds; that from the SE. called the *Autan*, and that from the NW. called the *Cers*. Both of these blow with great force; and at Carcassonne and Castelnau-d'Aud the *autan* is occasionally so violent as to unroof houses and tear up trees. In summer it sometimes strikingly resembles the *sirocco*. All sorts of corn are raised on the plains, and millet and buckwheat on the mountains. The produce exceeds the consumption of the inhabitants so much, that the export is estimated at about 500,000 hectolitres a year. Next to corn, wine is the most important agricultural product, the vineyards being supposed to furnish about 890,000 hectolitres a year. The red wines are inferior, but the white wines, particularly the *blanquette de Limoux*, are much esteemed. A good deal of brandy is manufactured. Sheep numerous: annual product of wool estimated at 1,800,000 kilogs. Irrigation well understood; and there are some fine artificial meadows. The honey of Narbonne is the finest in France. According to the official tables, the soil is principally appropriated as follows: viz.—cultivable lands 273,000, meadows 11,000, vineyards 50,000, forests 44,000, and waste lands, heaths, &c. 183,000 hectares. Landed property is greatly subdivided in this as in the other South-west departments; the average extent of the farm is 60 acres, and a great many are less. This subdivision is of old date, and existed long previous to the revolution. The dep. is rich in mineral products. Mines of iron are wrought in different places; and the total produce of the foundries is estimated at about 17,000 metrical quintals a year. Above 30,000 pieces of cloth are annually manufactured at Carcassonne, of which 6,000 are exported to the Levant. There is also a large manufactory of combs and articles of jet, with fabrics of paper, tanneries, distilleries, and salt-works. Trade and industry have been greatly promoted by the facilities of communication afforded by the canal of Languedoc, as well as by the railway from Toulouse to Cette, with its branches, which crosses the department. Principal towns Carcassonne, Narbonne, and Castelnau-d'Aud.

AUDINCOURT, a village of France, dep. Doubs, cap. cant., on the Doubs, 3 m. SE. Montbelliard. Pop. 2,864 in 1861. This village is distinguished by its iron-works, which furnish annually above 5,000,000 kilogs. of bar and wrought iron, exclusive of considerable quantities of iron and tin plates.

AUDRUICQ, a town of France, dep. Pas de Calais, cap. cant., 2,873 m. NNW. St. Omer, on the Great Northern railway. Pop. 2,220 in 1861. The town is strongly fortified.

ACERBACH, a town of Saxony, on the Golsch, 12 m. E. Plauen. Pop. 4,444 in 1861. The town was almost entirely destroyed by fire in 1834, but has been rebuilt in a superior style. It has manufactures of muslin and black lace, with breweries, paper-works, and an active trade.

AUERBACH, a handsome village of g. d. Hesse Darmstadt, 15 m. S. Darmstadt. Pop. 1,750 in 1861. It has a castle, the summer residence of the Grand Duke; and several wells and baths, much resorted to by the inhabitants of Darmstadt.

AUERSTADT, a small village of Prussian Saxony, reg. Merseburg, 6 m. W. Naumburg. Here, on the 14th of October, 1806, the main body of the great Prussian army, under the Duke of Brunswick and the king in person, was defeated by the division of the grand French army commanded by Marshal Davoust. The same day Napoleon defeated, at Jena, the right wing of the Prussian army, under General Mollendorff. The combined action has been called the battle of Jena. (See JENA.) Davoust, in reward of his skill and gallantry, received from Napoleon the title of Duke of Auerstadt.

AUGGUR, a town of Hindostan, prov. Malwa; in the dom. of Sindia; on a rocky eminence, 1,598 ft. above the level of the sea, between two lakes, 40 m. NE. Oojein; lat. 23° 43' N., long. 76° 1' E. It is surrounded by a stone wall, and has a well-built native fortress: it is of considerable extent, and in 1820 contained 5,000 houses; but these, excepting one street, were nearly mud buildings.

AUGSBURG (an. *Augusta Vindelicorum*), a city of Bavaria, cap. circ. Upper Danube, finely situated in an extensive and fertile plain, between and near the confluence of the Wertach and Lech, 85 m. NW. Munich, at the junction of the railways from Munich to Ulm, and from Nürnberg to the lake of Constance. Pop. 38,460 in 1861. Augsburg was long one of the richest, most commercial, and powerful of the free cities of the empire. Its fortifications were dismantled in 1708, and the old walls have been partly converted into promenades. The streets are mostly narrow and inconvenient, but one of them, the Maximilian Strasse, is a noble thoroughfare, more than $\frac{3}{4}$ of a mile in length, wide and airy, with lofty, well-built houses, and ornamented with several fine fountains. There are some other good streets and squares. The houses, which are mostly old, are large, and sculptured and painted fronts are common. The town-hall, near one of the extremities of the Maximilian Strasse, the finest building in the town, was finished in 1620. It has a hall on its second story, denominated the golden hall, from the profusion of gilding, reckoned one of the finest apartments in Germany. The other public buildings are the palace, formerly the residence of the bishop, but now used for government offices; the cathedral, an extensive Gothic fabric, dating, in part, from the sixteenth century; the arsenal; the abbey of St. Ulrich, with the church of St. Afra, and the new 'Waarenhalle,' or commercial exchange. The town is extremely well supplied with water, and is intersected by no fewer than four canals. Exclusive of the walks on the glacis and in the neighbourhood, it has a fine promenade in front of St. Ulrich's church. Among the educational establishments are two gymnasiums, at one of which Prince Louis Napoleon, subsequently Napoleon III., Emperor, received his education; an academy of arts, founded in 1820; a polytechnic society; two endowed schools for females, a Lancastrian school, and several Sun-

day schools. The public library contains a valuable collection of printed and manuscript Greek works. The collection of paintings, chiefly of the German school, formerly in the town-hall, has been partly removed to Munich. Among the charitable establishments is the *Fuggerei*. This consists of 51 small houses containing 106 dwellings, built in 1519 by the Fugger family, and let to indigent citizens at a mere nominal rent. In our own times, Schaezler, a banker of the city, has followed up this example, by endowing a school of industry for 100 orphans and poor children, and founding an asylum for decayed townspeople.

The manufactures of Augsburg are various and important. That of woollen stuffs is the most extensive and thriving; those of cotton and linen, though still considerable, have declined. It has also a cannon foundry, and produces large quantities of paper, with gold and silver lace and jewellery, printing-types, soap, and glass. Augsburg is likewise the centre of an extensive trade in printing, engraving, and bookbinding, but its principal importance at present, and for a long time past, has been derived from its being, next to Frankfurt, the grand seat of banking and exchange operations in Central Europe. The greater part of the extensive transactions between Vienna and W. Germany, as well as most of those between Germany and Italy, are finally balanced and adjusted in this city.

This was formerly a place of much greater population and importance than at present. It is very ancient, Augustus having settled a colony in it about twelve years B.C. In the middle ages it was early distinguished by its trade; and having purchased its freedom from the dukes of Suabia, it rapidly rose in importance. At the end of the 14th century Augsburg, Nuremberg, and some other cities in Southern Germany, had establishments in Venice, and carried on a very extensive trade with Italy, the Levant, and the rest of Germany. The family of the Fuggers, probably the richest and most extensive merchants of the 15th and 16th centuries, and who afterwards became princes of the empire, were originally simple burghers of this city, weavers by trade, and though the most celebrated, they were not its only citizens who attained to almost regal opulence and power. Augsburg declined, partly in consequence of the prolonged wars of the 16th and 17th centuries, but more, perhaps, from the change in the channels of commerce, occasioned by the discovery of the route to India by the Cape of Good Hope, and the rise of other emporia. Latterly it has improved considerably.

Augsburg has been the theatre of many important events. At a diet held within its walls—in an ancient building still standing, called the 'Residence'—on the 25th of June, 1530, the famous Confession of Faith, drawn up by Melancthon and subscribed by the Protestant princes, was publicly read before, and presented to, the Emperor Charles V. This celebrated document has thence been called the Augsburg Confession. Here, also, the *interim*, or provisional edict, was published by Charles V. in 1548; and here, in 1555, was concluded the peace which assured the full enjoyment of their rights and liberties to the Protestants. Augsburg continued to be a free city till 1806, when it was ceded by Napoleon to Bavaria. It is now the cap. of Suabia, one of the eight provinces of the kingdom.

AUGUSTA, a city of the U. States, E. frontier Georgia, on the Savannah river, by which it is separated from Hamburg in S. Carolina; 123 m. NNW. Savannah, 188 m. WNW. Charleston, lat. 33° 33' N., long. 80° 46' W. Pop. 13,200 in 1860.

The city is situated on an elevated plain; streets wide, and intersecting each other at right angles; houses brick, many of them being spacious and elegant. It has a city hall, court-house, theatre, academy, hospital, with numerous places for public worship; a medical college, and a college for Methodists. Augusta has a considerable transit trade, particularly in the conveying of cotton to Savannah and Charleston, but which suffered much during the civil war in the United States, 1861-5, during the whole of which the city was in the hands of the Confederate government, and cut off from all intercourse with the Northern States.

AUGUSTA, a town of the U. States, cap. Maine, on the Kennebec, 168 m. NE. Boston. Pop. in 1810, 1,805; in 1830, 3,980; and in 1860, 10,000. It is a finely situated town, and has been, since 1832, the seat of the legislature and government of the state. The river, which is thus far navigable for vessels of 100 tons, is here crossed by a bridge of two arches, each 180 ft. in span.

AUGUSTINE (ST.), a town and sea-port of the U. States, E. coast of Florida, lat. $29^{\circ} 52' N.$, long. $81^{\circ} 25' W.$ Previously to the acquisition of Florida by the U. States, this was a place of some importance, contained from 4,000 to 5,000 inhab., and was defended by a fort. But it has since declined, principally in consequence of the badness of its port. The bar at the mouth of the latter has not more than 8 or 9 ft. water at high spring tides, and at low water not more than 5 ft., which at times makes it impossible even for boats to pass in or out. A lighthouse, on the N. end of Anastasia Island, with a fixed light, marks the entrance to the port. (Blunt's American Coast Pilot, p. 243.)

AULENDORFF, a market-town of Württemberg, circ. Danube, 12 m. SSW. Biberach (Biberach), on the railway from Ulm to the lake of Constance). Pop. 1,105 in 1861. It is beautifully situated, and has a castle, partly Roman, with a fine picture gallery.

AULETTA, a town of Southern Italy, prov. Salerno, on a hill, near the Negro, 86 m. ESE. Salerno. Pop. 3,548 in 1862. This town is very ancient, having been founded by a Greek colony.

AULONA, or VALONA (an. *Aulon*), a sea-port town of Turkey in Europe, prov. Albania, cap. Sanjak, near the mouth of the Adriatic, on the E. side of a gulf of the same name, 54 m. ENE. Otranto, in Italy, lat. $40^{\circ} 27' 15'' N.$, long. $19^{\circ} 26' 20'' E.$ Pop. estimated at 6,000, consisting of Turks, Christians, and Jews banished from Ancona, by Pope Paul IV. Though very ancient, it has few or no remains of antiquity. It was taken by the Turks from the Venetians in 1691; and the only good houses of which it has to boast, were built by the latter. It is defended by a castle. The Gulf of Aulona has at its mouth the small island of Sassino, which serves as a natural breakwater, protecting it from the heavy seas that would otherwise be thrown in from the W. and NW. There is deep water on each side the island, and within the gulf expands into a fine basin with excellent anchoring ground. The country round Aulona is exceedingly fertile; but it is very unhealthy in summer, when the town is nearly deserted by the inhabitants.

AUMALE, a town of France, dep. Seine Inférieure, cap. canton, on the Bresle, 14 m. ENE. Neuchatel. Pop. 2,134 in 1861. The town has manufactures of coarse cloth; some good mineral sources are in the neighbourhood. Henry IV. was wounded in an action with the Spaniards under the Prince of Parma, on the bridge of this town, in 1592.

AURAY, a sea-port town of France, dep. Morbihan, cap. cant., on the Auray, 11 m. W. Vannes,

on the railway from Vannes to L'Orient. Pop. 3,969 in 1861. The town is built on the declivity of a hill; the town-house and the parish church are worth notice. Vessels of small burden come up to the town; but its port lower down is accessible to vessels of considerable burden, and it has a good deal of coasting trade. Charles of Blois was killed and Duguesclin made prisoner in a battle fought here in 1364.

AURICH, a town of Hanover, cap. W.riesland, 15 m. NE. Emden. Pop. 4,712 in 1861. The town is the seat of the provincial government, a chancery, and a Protestant consistory. It has three churches, a college, and a gymnasium, with fabrics of tobacco, paper, and pipes.

AURILLAC, a town of France, cap. dep. Cantal, on the Jordane, 147 m. E. Bordeaux, on the railway from Bordeaux to Lyons. Pop. 10,936 in 1861. The town is built on the declivity of a hill, and between it and the river is the agreeable promenade, called *Le Gravier*. Though generally well built, it is gloomy and disagreeable: the streets are narrow, crooked, and ill paved, but well watered and clean. It was formerly surrounded by walls, and defended by a castle; but excepting a part of the latter, the rest of its fortifications have been demolished. The college is the largest of the public buildings: the hotel of the prefect, the town-house, and the church of St. Giraud, belonging to the ancient monastery to which the town owes its foundation, deserve notice. There is a handsome bridge over the river. Aurillac has tribunals of original jurisdiction and of commerce; a theatre, a public library containing 6,000 volumes, a society of agriculture, a cabinet of natural history, and a *dépôt de chevaux, or haras*. It is an industrious town, and has manufactures of paper, lace, and tapestry. Pigniol de la Force, the author of a 'Description Géographique et Historique de la France' (Paris, 1752-53, 15 vols. 12mo.), was born here in 1673. Carrier, infamous for his atrocities during the revolution, was also a native of this place.

AURIOL, a town of France, dep. Bouches du Rhone, on the Veauine, 15 m. ENE. Marseilles. Pop. 5,047 in 1861. The town has manufactures of wool and tapestry, and in the neighbourhood are valuable coal and copper mines. A good trade is carried on, and well frequented fairs are held on the 18th September, 3rd October, and the 6th of December, for hogs, mules, grain, and cloth.

AURUNGABAD (*the place of the throne*), a large marit. prov. of the Decan, Hindostan, comprised partly in the British dominions (presid. Bombay), and partly in those of the Nizam; principally between 18° and $21^{\circ} N.$ lat., and 73° and $77^{\circ} E.$ long.; having N. the provs. Gujrat, Candesh, and Berar, E. Beeder, S. Bejapoor, and W. the Indian Ocean. Surface very irregular, and in general mountainous, especially toward the W., where the Ghauts attain a considerable height. That part of the prov. E. of the Western Ghauts is a table-land rarely less than 1,800 ft. above the sea, and often much more: it abounds with natural fortresses and strongholds. There are no rivers of any size; the Neera, Beema, and Godavery rise within this prov., but acquire no magnitude until after they have left it: the two former streams unite in marking the SW. boundary. The climate is particularly favourable for the production of European fruits, which arrive at greater perfection than in any other part of India, especially the peach, grape, and strawberry; nectarines, figs, and melons are excellent; but the oranges are inferior to those of Sylhet and Tipperah. The gardens and fields around the villages are very generally inclosed by hedges of prickly

pear and milk-plant; rice is the grain most cultivated. Great numbers of horses for the Maharatta cavalry were formerly reared on the banks of the Neera and Beema; they are a hardy breed, but neither strong nor handsome. The inhab. are chiefly Maharattas; but the prov. is comparatively thinly peopled, especially toward the NE.: the Mohammedans are to the Hindoos only as 1 to 20. Aurungabad has thirteen subdivisions, and contains the cities of Bombay, Poonah, Aurungabad, and Soolapoor. The bazaars of its larger towns are cheerful and enlivening enough, but the streets of its smaller ones extremely dull and gloomy, from the absence of windows facing towards them. The religious edifices are distinguished by many peculiarities from those of the prov. both of N. and S. India; the portico is often nearly as large as all the rest of the building, and in some towns the pagodas are either twelve-sided pyramids or square buildings surmounted by a large cupola. Many remarkable antiquities exist in this prov.; as the temples and caves at Salsette, Elephanta, Carlee, Ellora, &c. Until the destruction of Maharatta power, in 1818, plundering by land and piracy by sea prevailed much in and round this prov., the greater part of which, for some time previously to that year, was subject to the Peishwa. Aurungabad was also the great source of the predatory bands that devastated Hindostan for more than a century; though, after the overthrow of the Maharattas, it became one of the quietest and most orderly portions of the peninsula. The construction of a line of railway, connecting the city of Aurungabad with Bombay, has greatly tended to the increase of trade and commerce, and the general prosperity of the inhabitants. This prov. was formerly called Ahmednuggur, and afterwards Dowlatabad, from the cities so named being in turn its capitals, under two dynasties previously to A.D. 1635: at which period Shah Jehan finally conquered and annexed it to the Mogul empire. The seat of government was then transferred from Dowlatabad to Gurka, which town becoming the favourite residence of Aurangzebe, acquired, as well as the prov., its modern appellation.

AURUNGABAD, a city of the Deccan, Hindostan, cap. prov. of same name, within the dom. of the Nizam, and the head-quarters of a battalion of his army under British officers. It is built in a hollow on the banks of the Kowlah, a tributary of the Godavery, in 19° 54' N. lat., and 75° 33' E. long., 275 m. NW. Hyderabad, 180 m. ENE. Bombay, and 140 m. NE. Poonah, with a station on the railway from Nagpore to Bombay. Pop. estimated at 60,000. Aurungabad was once highly flourishing, and the favourite residence of Aurangzebe, but now, in great part, presents an appearance of decay and ruin; though, at a distance, its lofty minarets, large white domes, and terraced houses, give it an imposing character. The wall which surrounds it, though capable of affording protection from predatory bodies, is lower than such walls usually are. The streets are broad, especially the principal bazaar, which is 2 m. in length, and has at one extremity a spacious quadrangle, with a handsome modern market: some few streets are paved. There are many large and good houses; and the public buildings, mosques, and caravanserais, are superior to those usually met with in native cities, and interspersed with numerous gardens, groves, and fountains. The shops are supplied with the goods of both India and Europe; but there is not much commercial activity. The only structures worthy of notice are the royal palace of Aurangzebe, which covers a large space of ground, but is now fast mouldering away; and

a mausoleum erected by that monarch to a favourite wife, an octagonal building with a cupola and four minarets, constructed on the model of the *Taj Mahal* at Agra: the inclosure surrounding it contains perhaps thirty acres of land laid out in gardens. The principal suburb is on the opposite side of the river, and connected with the city by two substantial stone bridges. Toward the N. there is a large marshy tract of ground cultivated with rice, and near the Delhi gate is a considerable tank, now overgrown with weeds; from which circumstances, combined with its low situation and ruinous state, this city is decidedly unhealthy. It is, however, by reason of its position, well supplied with good water, conveyed thither in stone conduits from the neighbouring hills, and distributed by earthen pipes into stone reservoirs in every quarter. The climate is subject to great and sudden alterations: for one-third part of the year E. winds prevail, and the thermometer ranges from 50° to 86° Fahr.; for the rest of the year WSW. winds are the most common, the thermometer often rising to 100°. Tropical fruits of all kinds are produced in abundance, and the grapes and oranges are scarcely inferior to those of Europe. The military cantonments are in a salubrious spot about a mile SW. the city. Aurungabad was originally named Gurka, and became the seat of the provincial government after the Mogul conquest in A.D. 1684.

AUSPITZ, or *Hustopetsch*, a town of the Austrian empire, Moravia, circ. Brünn, belonging to Prince Lichtenstein. Pop. 8,118 in 1858. The neighbourhood is famous for its wine.

AUSTERLITZ, a small seignorial town of Moravia, circ. Brünn, on the Littawa, 18 m. SE. Brünn. Pop. 3,452 in 1858. The town has a magnificent castle and gardens. In the vicinity of this town, on the 2nd of December, 1805, took place the famous battle that bears its name between the French army under Napoleon, and the combined Russian and Austrian armies under their respective emperors. The battle of Austerlitz was followed by the treaty of Presburg, signed on the 26th of December.

AUSTLE (ST.), a m. town and par. of England, co. Cornwall, hund. Powder, on the declivity of a hill, at the bottom of which is a small rivulet, 248 m. WSW. London, 14 m. NNE. Truro. The par. contains 11,540 acres, and, according to the census of 1861, had 11,893 inhab., and the town 3,825 inhab. It is situated about 2 m. from St. Austle's Bay, and is connected by a railway with the port of Pentewan, and also with the port of Charlestown. It has a good church, but the streets are narrow and inconvenient, many of them being unpaved. It is the seat of the most considerable of the stannary courts; but it owes its entire consequence to the Polgooth and Crennis tin and copper mines, and the soap-stone quarries and china-clay works in its immediate vicinity. The pilchard fishery is also prosecuted to a considerable extent in St. Austle's Bay. The extension of the mines and clay-works has been such that the population of the parish has more than trebled since 1801, it having then amounted to only 3,788. About 5,000 tons of soap-stone and 7,000 tons of china-clay are annually shipped from Charlestown and Pentewan, principally for the potteries.

AUSTRALASIA, a great division of the globe, lying S. and SE. of Asia.

It was for a lengthened period supposed that the different points of land that were discovered in the Southern Ocean, to the S. of the islands of Java and Celebes, and of the Cape of Good Hope and Cape Horn, belonged to or formed parts of a vast southern continent, to which the name of

Terra Australis was given. The existence of this great continent was inferred, not merely from the discovery of lengthened portions of coast, but also on theoretical grounds, it being supposed to be necessary as a counterpoise to the vast extent of land round the Arctic pole. (*Histoire des Navigations aux Terres Australes*, i. 13.) But as this *Terra Australis* was supposed to extend quite round the globe, the expediency of subdividing it into smaller portions became evident; and the learned President de Brosse, in his excellent work referred to above, suggested that that portion of it to the S. of Asia should be called *Australasia*, that to the S. of America *Magellanica*, and that to the S. of the Pacific Ocean *Polynesia*, from the number of its islands. (*Navigations aux Terres Australes*, i. 80.) The discoveries of Cook and other modern navigators have shown that there is but little ground for thinking that there is any continent S. of America. But the appropriateness of the names given by De Brosse to the other portions of the *Terra Australis* have been very generally acknowledged. And with the exception of the usual, although incorrect, conversion of *Australasia* into *Australia*, and the extension of the latter a little farther to the E. than De Brosse had probably in view, his definitions are now universally adopted. It is not, however, very easy to assign the precise limits of *Australasia*, mingling as it does with the Polynesian islands towards the NE., and with those of the Indian archipelago towards the NW.: physical rather than purely geographical considerations dictate the demarcation.

S. of the tropic of Capricorn, *Australasia* extends from the 118th to the 180th meridian.

Between the tropic and 11° S. lat., from the 118th to the 170th meridian.

Between 11° and 5° S. lat., from the 135th to the 165th meridian.

Between 5° and 1½° S. lat., from the 131st to the 160th meridian.

Between 1½° S. lat. and the equator, from the 130th to the 160th meridian.

Within these limits are included the continent of Australia, formerly called New Holland, and the islands of Tasmania or Van Diemen's Land, New Zealand, New Caledonia, New Hebrides, Queen Charlotte's Islands, Solomon's Archipelago, New Britain, New Ireland, New Hanover, Admiralty Isles, and Papua or New Guinea. In the subjoined description the continent of Australia is more particularly treated, New Zealand and Tasmania or Van Diemen's Land being left to special articles. See VAN DIEMEN'S LAND and ZEALAND, NEW.

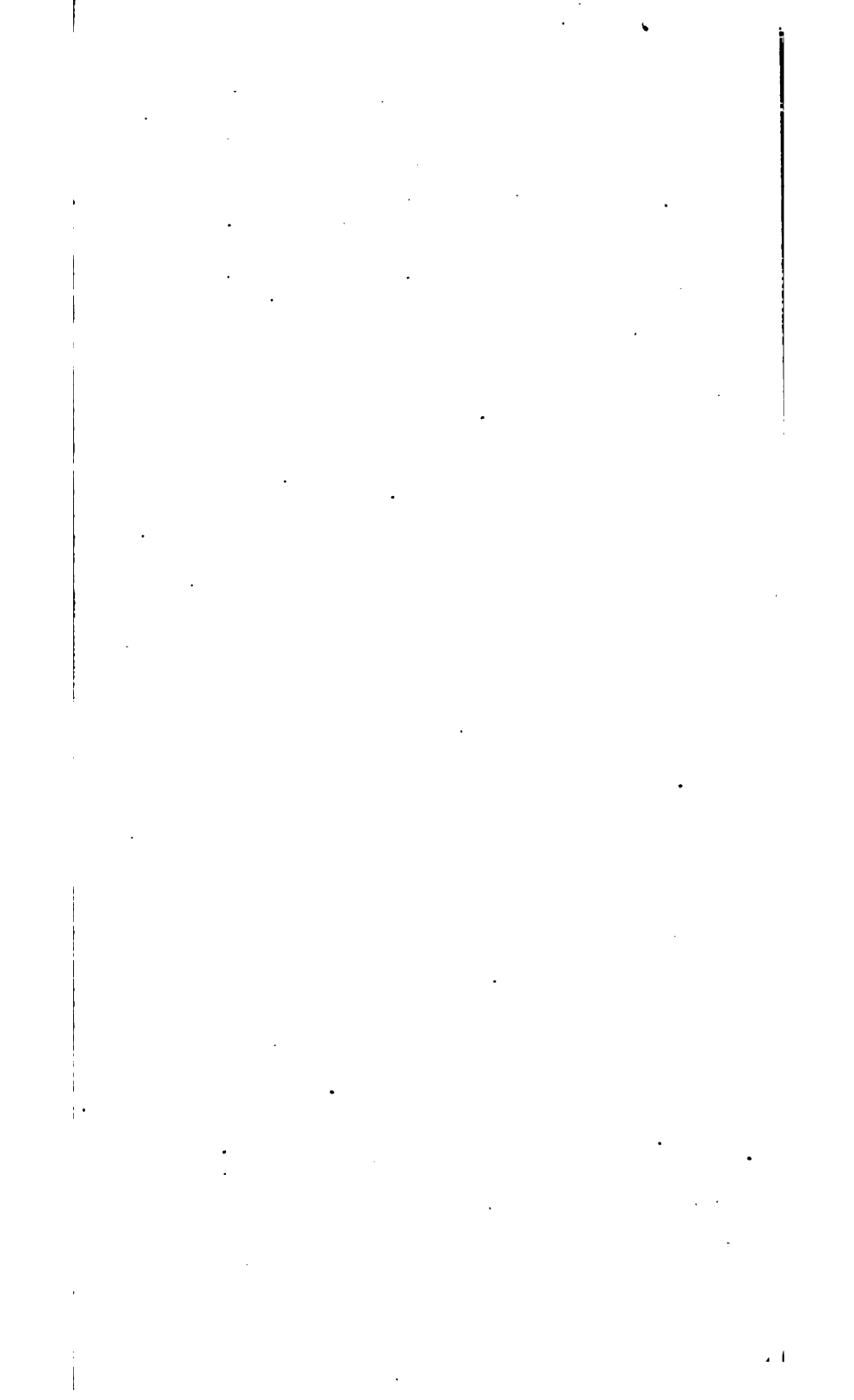
The continent of Australia lies between 10° 39' and 39° 11½' S. lat., and extends from 118° 5' to 158° 16' E. long. In form it is very compact; its greatest length, from W. to E., between Dirk Hartog's Point and Sandy Cape, being 2,400 m., its greatest width, from N. to S., between Cape York and Cape Wilson, 1,971 m. Its average length and width may, perhaps, be estimated at 1,800 and 1,700 m. respectively; its coast-line at 7,750 m.; and its area is estimated at about 8,000,000 sq. m. (*Flinders' Charts*, Voyage, i. 224, ii. 8, *passim*; King, ii. 178, *et pass.*; *Picture of Australia*, 11.)

SKETCH OF AUSTRALIA.—Coast.—In comparison with the outlines of Europe and Asia, and the E. seaboard of America, Australia may be regarded as almost iron-bound. It possesses only three large indentations, namely, Cambridge Gulf and the Gulf of Carpentaria on the N., and Spencer's Gulf on the S. Shark's Bay on the W. and Hervey's Bay on the E. are the next largest,

but they are very inconsiderable, not more than 40 or 50 m. in width and depth; and for the rest, though some of them, as Port Philip on the S., and Van Diemen's Gulf on the W., are large, when regarded as harbours, they are insignificant if considered as breaking the continuity of the coast. The same remark applies to such inlets as King George's Sound, Western Port, Corner Inlet, &c. on the S., or to the Twofold Bay, Jervis Bay, Botany Bay, Port Jackson, &c. on the E. It may be observed, too, that these ports and harbours are numerous only on the E. and N. shores; a very considerable portion of those on the S. and W. being quite unbroken. (*Flinders*, i. 49-223; King, ii. 159-178; *Australian Directory*, 30, 31, &c.)

But the most remarkable feature in the Australian coast is the total absence of outlets for any large rivers. So complete is this, that after *Flinders' survey* (in 1801-3) had established the fact, a belief became pretty general that the whole land was fenced, at no great distance from the coast, by a continuous mountain ridge; on the inner sides of which the principal rivers had their sources, flowing inwardly to a great internal lake or mediterranean sea. Wild as this hypothesis may now appear, it received some countenance from the earlier results of interior discovery, though it was unwarranted by the accounts on which it was founded, and has been completely disproved by more recent and more accurate investigation. The S. coast, through a length of more than 20°, from Cape Leuwin to Spencer's Gulf, is generally low and sandy, with only here and there some eminences, and scarcely anywhere exhibiting a high inland country. (*Flinders' Charts*, 2-4, Voy. i. 49-255.) On the E., indeed, a range of mountains rises at no great distance from the coast, extending from the S. extremity of the continent as far, at least, as the 26th parallel, and most probably as far as Cape York, on Torres Straits, the most remote point of the mainland towards the N. (*Adm. Ch. Flinders*, ii. 1-76; King, i. 165-240; *Bligh's Nar.* 46-69.) But on the N. shore, a mountain, not higher than the mast of a sloop, is noticed by *Flinders* as the highest point of ground seen by him in a run of 175 leagues along the coast. (*Voyage*, ii. 184.) Low levels, with only here and there some elevations of no great character, mark, also, the shore W. of Carpentaria, as far as Cape Londonderry, where the land begins to tend towards the SW., forming the Cambridge Gulf. The coast continues running south-west till the mouth of the Victoria river, discovered, in 1839, by Capt. Wickham, and then again turns northward up to Van Diemen's Gulf and Melville Island.

Interior.—From what has been said, it is evident that the readiest means for the investigation of a strange country, that is, extensive creeks, inland seas, and navigable rivers, are wanting in this 'land of anomalies.' Its interior recesses had to be explored, if at all, by land travelling; and to this there appeared, at first, to exist an unconquerable barrier. The first settlers on the E. coast found their horizon bounded towards the W. by a dark and rugged chain of mountains which rose at no very great distance from the sea, and to cross which the earlier attempts, though made by parties of no common skill and energy, completely and signally failed. (*A. Cunningham's Geog. Journ.* ii. 99.) A rugged and abrupt ascent, called 'Caley's Repulse,' marks the limit of the first adventurer's tour (*Oxley*, 863), and the efforts of Daws, Tench, Patterson, Haking, Bass, and Bareiller, though some of them proceeded a few miles farther than Caley, led to no useful result. The aborigines, when questioned,

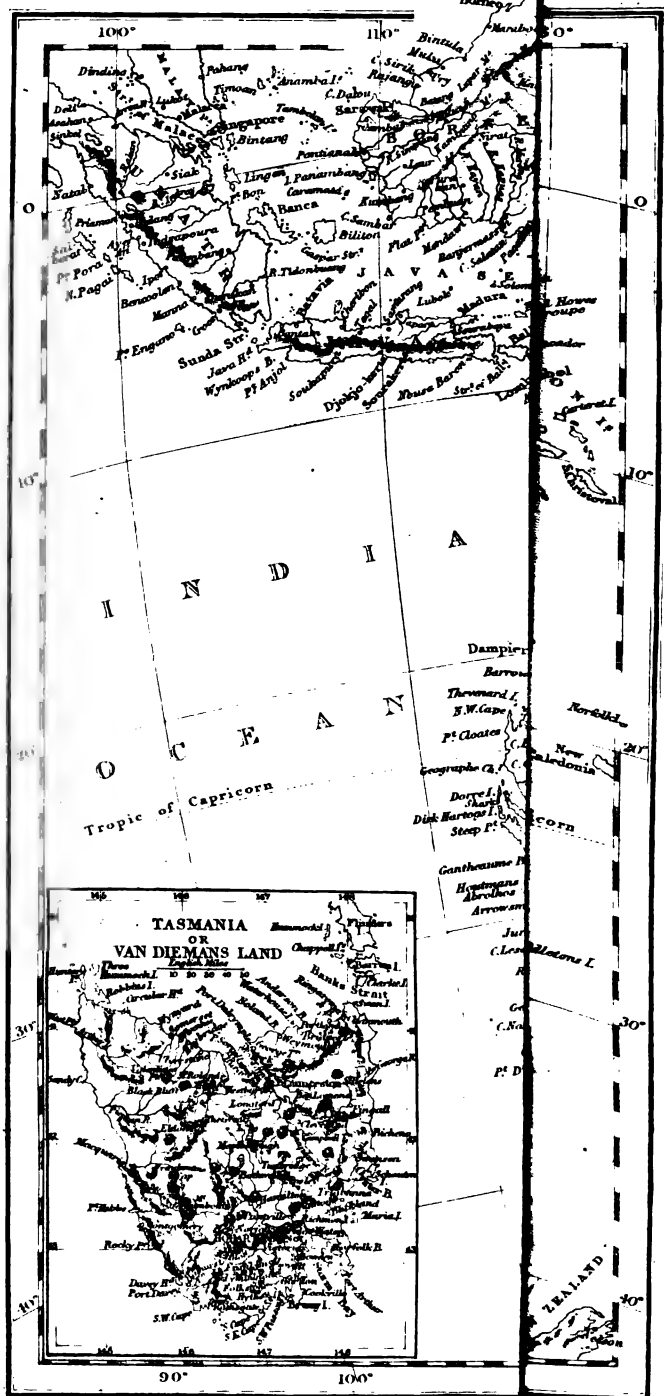


Australia Area 3,000,000 Sq. Miles

Sampas... with 1600 Miles

England & Wales Nearly 58,000 Sq. Miles. Length 365 Miles

... with 270 Miles



were totally ignorant of any opening in the mountains (A. Cunn., Geog. Journ. ii. 99); but they had a tradition that malignant spirits resided there, and that the country beyond was inhabited by *white men*. In 1813, however, after an interval of twenty-five years, an extremely dry season having destroyed the minor vegetation, and produced a great mortality in the flocks and herds, Lieut. Lawson, Mr. Blaxland, and Mr. Wentworth attempted to penetrate the hitherto impenetrable mountain barrier, in the hope of finding pasture and water for the exhausted cattle of the colony. They were so far successful that they gained a view of an extensive country W. of the mountains; but want of provisions compelling them to return, the honour of completing the discovery was reserved for Mr. Evans, the deputy surveyor-general. (Oxley, Introd. 7-9; Sturt, Introd. 73-75.) The barrier once penetrated, the lands beyond were not left long unexplored. In the fifty years that have since passed, Messrs. Hume, Hovel, Currie, Cunningham, Oxley, Sturt, Mitchell, Landor, Gregory, Stuart, Burke and Wills, Howitt and others, have pushed their enquiries all over the continent, leaving but small portions of the vast territory entirely unknown. Thus, an area of above two millions of square miles has been thoroughly explored within a period of little more than half a century: a fact honourable alike to the zeal and the industry of the observers.

Mountains and Plains.—In the Old World, the mountain ranges, however tortuous, agree in general direction with the greatest length of the continents in which they lie. Thus the axis of America runs N. and S. of the E. continent (Europe, Asia, and Africa) from NE. to SW.; but in Australia the principal chains, so far as observation has yet been carried, appear to run transversely to the direction of the land; that is, from N. to S. The discoveries of Major Mitchell have made known a mass of mountain land, called by him the Australian Grampians, which commences near the S. coast at Portland Bay, in lat. $36^{\circ} 52' S.$, long. $142^{\circ} 25' E.$ The direction of these mountains is at first due N., but in lat. $37^{\circ} 30'$, long. $142^{\circ} 47'$, a range of grassy hills diverges to the ENE. to connect them with the highest masses yet seen in Australia, called by the natives Warragong, and by the settlers the Australian Alps. The connecting range received from Mitchell the title of Australian Pyrenees. The Warragongs may be described as running NNE. from near the S. termination of the continent at Cape Wilson as far as $35^{\circ} 20' S.$; but as high as $36^{\circ} S.$ a chain of less elevation, called the Blue Mountains, branches off from them, and following generally the direction of the E. coast divides the E. and the W. waters. In lat. 32° , long. 150° , the range, after tending, for some distance, a little to the W. of N., suddenly turns due E., and under the name of the Liverpool Range, runs in that direction for about 1° of long., when it resumes its northerly course; but though it has been traced as low as $26^{\circ} S.$ lat., no name has been bestowed upon any part of it beyond the parallel of 32° . The highest peak in the Grampians is Mount William, 4,500 ft. above the level of the sea (Mitchell, ii. 265); of the Pyrenees, Mount Cole, or Mount Byng, probably 3,000 ft. No measurements have been taken of the Warragongs, but as they are covered with eternal snow (Mitchell, ii. 297, &c.; Currie's Geog. Mem. 373), their height, in this lat., cannot be estimated at less than 15,000 ft. The Blue Mountains, so long impassable, do not attain a great elevation; Mount York, the highest peak, being no more than 3,292 ft., but the valleys and plains in this extraor-

dinary range occur extremely near the summits. King's table-land is 2,727 ft., the Vale of Clwyd 2,496 ft., and Bathurst Plains, 1,970 ft. above the level of the sea. (Oxley's Bar. Mea. P. Cur. 8vo. i. 152; Wentworth, 82.)

The Liverpool Range is almost as difficult of passage as the Blue Mountains (A. Cunningham's Geog. Mem. 152-177); its highest peaks being between 6,000 and 7,000 ft., and the continuation of the dividing chain apparently still more rugged and abrupt. A gap of the kind, called by the Spaniards *quebradas*, in S. America, stopped Oxley in his journey from the interior to the coast, in 1818. This '*tremendous ravine*,' he describes as being from two to three miles wide at top, and 3,000 ft. in perpendicular depth; its width at bottom does not exceed 100 or 200 ft., and is the bed of a river. (Journal, 295.) Sea View Hill, in this part of the range, is between 6,000 and 7,000 ft. high; but Oxley did not think it the most elevated ground in the neighbourhood. (Journ. 310.) Practicable passes are, however, being continually discovered; one over the Blue Mountains, near the 85th parallel, was effected by Mr. Thorsby as early as 1819, and two others by Mitchell since 1830. (Mitchell, i. 153; Wentworth, 81.) That over the Liverpool Range, traversed by Mitchell in 1831, which is nearly on the meridian of Sidney, seems to be easier than Pandora's Pass, 1° to the E., crossed by A. Cunningham in 1823 (Mitch. i. 25; A. Cunn., Geog. Journ. 179), and breaks have been observed in the more N. mountains, which promise to be free from those difficulties which were well nigh the destruction of Oxley and his party.

The W. mountains, viewed from the S., consist of three parallel ranges, extending about $20^{\circ} E.$ of the 118th meridian, and running, like the E. chains, almost due N. through the continent. The most E., and the highest of these mountains, rise a few miles behind King George's Sound; the second, called the Darling Range, commences at Cape Chatham, in $35^{\circ} S.$, $116^{\circ} 35' E.$, and the third and lowest is found running close to the shore from Cape Leuwin. (Journals of Exped. in W. Australia; Surveyor-Gen. Rep. May 11, 1830.) However, the first is not a continuous range running N. and S., but consists of two detached and parallel chains extending longitudinally and separated from each other by a plain of considerable magnitude. (Journ. Dale, 163-167.) The W. chain, called Koikynenuruff, is considerably the higher, one of its peaks, Toolbrunup, attaining the elevation of 3,000 ft., an altitude much exceeding that of any other mountain yet examined in W. Australia. The S. chain, called Porrongorup, is not only lower, but of much less extent, having a base of only 13 m., while that of the Koikynenuruff is full 30. (Journ. Dale & Collie, 161-167, 189, 178, &c.) The Darling Range is continuous as far as $31^{\circ} S.$, to which distance it has been explored, and there is every reason to conclude that it runs in the same direction to the N. coast, in the neighbourhood of Dampier's Archipelago. Capt. King (i. 86-88; Adm. Ch. NW. & W. Aust. vii.) lays down this coast as high and rocky, though bounded to the W. and E. by a low sandy shore, that is, as having all the appearance of the termination of a mountain chain; the high N. coast, commencing at Cape Preston in $116^{\circ} 5' E.$, and Point D'Entrecasteaux, to which these mountains extend on the S. shore, lying in $116^{\circ} 1' E.$ (Flinders' & King's Adm. Ch.) The Darling Mountains average from 30 to 40 m. in width, and their greatest elevation is 2,000 ft. It is not likely that S. of the 31st parallel they anywhere exceed this height. (Journ. Preston, 9, 11; Dale,

81; 83; Surv.-Gen. Rep. Mar. 22, 1830.) The third range, mentioned in the Surveyor-General's Report, is unimportant; it is probably continued in Moresby's flat-topped range, the altitude of which is about 1,000 ft. (King, i. 22; ii. 174, Adm. Ch.) In about 83° S. lat., a rugged and irregular succession of mountains branches off W. from the Blue Mountain range, and appears like the dividing line of two great river basins. It quickly divides, however, into groups, almost detached from each other, to which various names, as Canobolas, Croker, Peel, Macquarrie, &c. have been given; and farther W. the interior is here and there studded with smaller knots; but, as far as has been yet observed, only in a belt of about 2°, namely, between the parallels of 81° and 29° S. The Canobolas is 4,461 ft. in height, an altitude much exceeding that of the Blue Mountains; and the Marga, another peak of the same series, attains the elevation of 2,106 ft. (Mitchell, i. 162; ii. 10, 877.) Isolated mountains, which in other countries are rarely met with, except in the case of volcanoes, are common enough in this new land. Yet exact scientific observations of nearly all of them are still wanting. Though the deserts of even the interior of the vast continent have frequently been explored, the investigation of the country, in most instances, took place in such a hurried manner as to make careful surveys impossible. The most celebrated of all inland expeditions, the famous ride of Messrs. Burke and Wills right across the continent, from S. to N. and back, in 1861, was so far characteristic of many Australian explorations, as to be a fight with savage nature rather than a scientific investigation of her phenomena. However, a few of these journeys of exploration had the most valuable results, notwithstanding the enormous difficulties opposing them. Among the number were Leichhardt's journey from Moreton Bay to Port Essington, in 1844-5; Walker's expedition from Rockhampton, in Queensland, to the Gulf of Carpentaria, which he reached in December 1861; the journey of M'Kinlay from Adelaide to the mouth of the Albert, at the beginning of 1862; and of Stuart through the central regions to the Cambridge Gulf, in the summer of the same year. Besides their scientific importance, all these journeys of exploration had the immense value of opening up unknown territories for the white settler and the track of civilisation. (Oxley, 4-77, 234, 258, 261, 275, &c.; Sturt, i. 69-82; Mitchell, i. 89, 45, 48, 62, &c.)

All the usual formations are found in the Australian mountains (Fitton King's Appen. 588, *et seq.*; Sturt, i. 197-200, ii. 249-256; Mitchell, ii. 349-369), but they seem to occur without order, and in defiance of all known geological laws in the Old World. A ferruginous sandstone forms the Blue Mountains, granite being rarely met with, except when it appears to have cracked the thick overlying stratum, in which case it is found in the valleys and the beds of streams. (Mitchell, ii. 349, 351.) Westward this fundamental rock is sometimes found in mountains of limited extent, and no great height, while more important ranges in their neighbourhood present regular horizontal strata. (Dale, 167.) In the interior the isolated hills are uniformly different in composition from the connected ranges, the latter being of granite, the former of sandstone (Oxley, 77); limestone, so common in the formations of the N. hemisphere, was unknown in Australia before 1818. It was first discovered, W. of the Blue Mountains, in a district, named from it, *Limestone Creek* (Oxley, 6); and although it has since been found in other parts of the continent, it is far from abundant, and

presents little or no appearance of stratification. (Mitchell, ii. 348.) Trap occurs in many places, but no location can be assigned to it with reference to the position of other rocks, and vesicular lava is abundant in the neighbourhood of the only volcano discovered in Australia. (Mitchell, ii. 350.) This volcano, called by Mitchell (ii. 235-246) Mount Napier, and by the natives Murooa, lies between the Grampians and the S. coast, in lat. 37° 52' 29" S. long. about 142° 20' E. A bituminous burning hill, belonging to a low range called Wingen (the native name for fire), a little to the S. of the Liverpool Range, is chiefly remarkable for the great variety of rocks of which it is composed. The neighbouring peaks are chiefly porphyritic; but the burning mount itself contains within a very short distance, clay, shale, argillaceous sandstone, felspar, basalt, ironstone, trap, and hornblende. (Mitchell, i. 28.) Wingen has been burning apparently for a very considerable time, but no marks of any extensive change appear on the surface near the burning fissures. Red heat is found at the depth of about 4 fathoms.

Malte-Brun observes, that the remarkable polarity of the principal mountains here described, extends throughout the whole of what he terms Oceanica; and if this be a little strained with regard to some of the islands of Polynesia and the Indian Archipelago, it is at least true with regard to New Zealand and the islands included in Australia Proper. The same author (xii. 8) conceives the chain of the Blue Mountains to be continued in the islands of Bass's Straits, and the axis of Van Diemen's Land, to Cape Pillar, the S. termination of the latter. Mitchell also (ii. 837) thinks that geological appearances lead to the conclusion that the two lands were not always separated; and this is at least highly probable, and is supported by similar appearances in the Old World: but in the words of Oxley (81), 'The whole form, character, and composition of this country is so singular, that a conjecture is hardly hazarded before it is overturned, every thing seems to run counter to the ordinary course of nature in other countries.' In other lands the rocks and reefs that run into the sea determine, in many cases, the direction and continuity, or otherwise, of the mountain systems, but the rocks and reefs of Australia afford no such key to the enquirer; they belong not to geology, they are the work of the coral insect, rising perpendicularly from the depths of the ocean till they form ridges and islands above its surface, which have nothing in common with anything but themselves. (Flinders, ii. 113-116.) Even the fact, that the geology of the continent and its adjacent islands is similar, is not conclusive, for the number of detached ranges and isolated mountains, existing in the former, prepare the mind for a much more startling admission than that the Van Diemen System may be wholly unconnected with that of the Blue Mountains, from which it is separated by a deep sea, 140 m. in average width.

From the parallelism of the principal chains (the Blue Mountains and the Darlings), it might not be unreasonably supposed that the interior was a table-land of moderate elevation. It has already been stated that early belief was directly contrary to this; and the course of discovery has shown both ideas to be erroneous. W. of the Blue Mountains, a succession of terraces, commencing at a great elevation, descend rapidly to a very low level. Oxley, at a distance of less than 80 m. from Bathurst, found himself only 600 ft. above the sea; that is, 1,370 ft. below the town. (Journal, 9.) The transverse mountains divide levels, apparently interminable, of the most monotonous character, and with a deficiency of vegetable matter,

that, in the opinion of Sturt (i. 108), argues powerfully for their recent origin. The line of the horizon is, in these vast flats, as unbroken as it is upon the surface of the sea; and there is every reason to believe, not only that they were at a comparatively recent period under water, but also that a very considerable portion of them is flooded by the overflow of the interior rivers, during wet seasons. The surface of these plains is extremely depressed, and so flat that the detached ranges and isolated mountains which rise out of them, appear like islands surrounded by an unbroken ocean. (Oxley, 22 *et seq.*, 89 *et seq.*, 107, &c., 273; Sturt, i. 144, &c., ii. 52, 59, &c.; Mitchell, ii. 57 *et seq.*)

Rivers and Lakes.—The vicinity of the dividing ranges to the coast prevents the accumulation of large rivers towards the E. or W.; but from the fact of their running more or less through parallel valleys, these streams possess in general a longer course than might have been anticipated. The chief of those that rise in the Blue Mountains, are the Murrumbidgee, Clyde, Shoalhaven, Hawkesbury, Hunter, Hastings, and Brisbane. There is nothing remarkable in them, except the fact that some of them, as the Shoalhaven and Hawkesbury, notwithstanding their short courses, issue to the ocean in noble bays. They possess few facilities for internal navigation, both as being very shallow, and from the tortuous nature of their currents. Some of their affluents are, however, sufficiently striking. They flow through ravines in the sandstone rocks, of from 100 to 8,400 ft. in depth, and of such width that Mitchell supposes that a mass equal to 134 cubic m. must have been removed from the single basin of the Cox, one of the tributaries of the Hawkesbury. The Grose, another affluent of the same river, flows through a valley of less extent, but of more precipitous character; so that the amount of stone displaced is probably not less than in the case of the Cox. What adds to the peculiarity of this feature in Australian geography is, that the outlets to these stupendous ravines are generally very narrow; the disposal of the vast masses of earth is therefore as mysterious as their amount is marvellous. (Mitchell, i. 151, ii. 351.) The rivers here mentioned have their outlets between the parallels of 27° and 36° S. Oxley, in 1824, discovered the Boyne, a rapid mountain stream, falling into Port Curtis, in lat. 23° 56' 30" S. (Field's Mem. 7.) Pumice-stone River falls into Morton's Bay, in 26° 54' 30" S. It was discovered by Flinders (Intro. xcvi.); but in consequence of only cursorily surveying the W. shore of that bay, he overlooked the more important Brisbane, probably the largest stream upon the E. coast. (Oxley, in Field, 12-23.) Endeavour River, in 15° 27' 12" S., is chiefly celebrated as the place where Capt. Cook repaired his ship after it had lain on a coral reef for twenty-eight hours: it has a wide and convenient mouth; but at a very short distance inland, it becomes incapable of floating the smallest boat. (King, i. 221.) On the W. coast the rivers are less numerous, and, with the exception of one or two, less important. Burns or brooks of excellent water are tolerably abundant, and four or five streams, such as the Fitzroy river, discovered by Capt. Wickham, in 1839, issue to the sea by very large estuaries, which seem like the entrances of noble water-courses: but as they all have their sources in the farther W. mountain range, their length is insignificant, and they are useless for internal navigation. The Swan and Canning which unite in Melville Water, near the parallel of 32°, are the most notable rivers on this portion of the coast. (Cross's Journals, 110; Irwin, 7; Dale, 27, 80, 155; King, ii. 167, 191; Adm. Ch. Erskine, 92.)

The N. shore is nearly as destitute of river mouths. The Liverpool in 134° 15' E., the Alligators in 182° 36', 132° 26', 132° 20' E., the Hunter and the Roe in 125° 27' E., and Prince Regent's River in 124° 53' E., were found by Capt. King in his laborious survey (1818-19). Of these, the largest (Prince Regent), is not navigable for boats more than 50 m. (including windings) from its mouth; but they are all full and wide streams; and, like those upon the E. and W. coasts, issue to the sea by immense estuaries, through which the tide rises sometimes as high as 80 ft. The Prince Regent, Hunter, and Roe, flow between steep rocky hills, from 300 to 400 ft. perpendicular altitude; the Liverpool and Alligators through a flat muddy soil, of the tamest and most monotonous description. (King, i. 99-107, 255-261, 292-302, 402-413, 433-439.) In 1839, Mr. Fitzmaurice, of the 'Beagle,' discovered the Adelaide river, emptying itself in the Clarence Straits; and soon after Capt. Wickham found the Victoria, the noblest stream on the north-western coast, navigable for about 60 m., and from 8 to 10 fathoms deep at the mouth. (Howitt, History of Discovery in Australia.) On the S. coast, the Blackwood falls into Flinders' Bay in 115° 10' E. long.; and in 117° 56' E., Oyster Harbour, the N. part of K. George's Sound, forms the large estuary of the Kalgan or French river. At the bottom of Encounter Bay, in about long. 139° E., we meet with a river's mouth of puny dimensions, and so encumbered by banks as to be inaccessible to vessels of any considerable draught of water. But, how unpromising soever, this is the embouchure of the Murray, by far the most important river hitherto discovered in Australia, and which affords a vast channel of internal communication. (See post.) In 1836, Mitchell traced to its termination the Glenelg, a river which, rising in the Grampians, falls into the sea in 141° 17' E. about 16 m. E. Cape Northumberland. This is one of the largest coast rivers in Australia: its affluents are numerous, and its course, including windings, upwards of 130 m., though its source be not more than 70 m. from the sea. It is wide and deep, *except at its mouth*; but, like most Australian streams, it first expands into a considerable basin, which, afterwards contracting, presents a very narrow outlet to the sea, the entrance from which is choked up by sand-banks. Except a few very small streams, there are no other water-courses on the S. coast.

Along a coast-line of nearly 8,000 m., there are thus not more than thirty river mouths; and of the streams to which these give egress, none have a course of more than 200 m., inclusive of windings, and but very few penetrate to a direct distance of 50 m. from the shore. Since it is evident that these cannot drain 1-10th part of the whole land, it is not very surprising that the belief of an internal lake or mediterranean sea should have been entertained by the first enquirers; and though this be now proved to be unfounded, the hydrography of the interior is scarcely less anomalous than such an arrangement would have been. It is difficult both to describe and to comprehend this internal water system, to which nothing bearing the least resemblance exists in any other part of the known world. Immediately W. of the Blue Mountains, and in the very highest terraces and table-lands, a host of mountain streams combine to form the Darling, the Macquarie, and the Lachlan, which, nearly on the same meridian (the 149th), diverge towards the NW. and NNW. in their progress to the interior. The course of the Darling is a curved line, enclosing all the country W. of the Blue Mountains, from an unknown point N. and E. of the 80th parallel and 148th

meridian to its junction with the Murray, in $34^{\circ} 7' S.$, $142^{\circ} 3' E.$ In this course, besides the rivers already alluded to, it receives the Bogan (New Year's Creek of Sturt), and such part of the waters of the Macquarrie as are not absorbed in the soil. (Sturt, i. 86-96; ii. 106, 116-120; Mitchell, i. 213-268, ii. 109-116.) Considerably farther S. another large stream, the Murrumbidgee, rises in the Warragongs, and, after receiving many short but full streams from the W. faces of the Blue Mountains, runs a very tortuous course, settling finally into one varving but little from due W. Still more to the S., in about $35^{\circ} S.$ lat., the Murray, already alluded to, issues from the flanks of Mount Wellington, the culminating point of the Australian Alps. This great river follows with many windings a WNW. course from its source through about $8\frac{1}{2}$ degs. long., till, at a point in about $149\frac{1}{2}^{\circ} E.$ long. and $34^{\circ} S.$ lat., it turns suddenly to the S., and ultimately unites with, and loses itself in, the large shallow lake of Alexandrina at the bottom of Encounter Bay. In its course it receives the waters of some very large affluents, including the Murrumbidgee and Lachlan and the Darling. In the year 1853 the Murray was for the first time navigated by a steamer of 40 horse power, having a barge alongside, for a distance of 1,300 m. from the sea; it is supposed that of its entire course of about 3,000 m., from 1,500 to 1,800 m. may be navigable for eight months of the year. (Parl. Paper, No. 89, Sess. 1854.) And if we add to this the navigation of its affluents, we shall have an extent of inland communication unequalled, except by that afforded by the Mississippi and other great American rivers.

It would appear, however, that the flow of water is not nearly so equable in the Australian as in the American rivers. Notwithstanding their great length of course, the former are in general of the nature of mountain torrents. Formed in the hills, by the confluence of many powerful streams, they rush from their mountain homes important water-courses; but quickly reaching a level country, they become sluggish in their motion, except when urged by the influence of flooding rains; and, receiving few or no tributaries, their existence depends on the magnitude of their sources, so that they shoal and narrow as they proceed,—an effect exactly the reverse of anything observed in older countries. When the mountains are saturated with water, the beds of these streams become fully charged, and then they foam and thunder along their track, till, in the flats of the low country, they meet with some opposition, when (their banks no longer able to contain them) they spread to the right and left in marshes, of which the overflow finds its way by insignificant channels to other streams. In dry seasons, on the contrary, these rivers dwindle to trifling brooks, even in the mountains, while, in the plains, their wide and deep beds become converted into dry and dusty chasms. This is the case with the Macquarrie and Lachlan, which, issuing from the mountains in large and full streams, are lost in extensive swamps, which in wet seasons are everywhere inundated. After a long-continued drought, the beds of the rivers present a succession of ponds; and their marshes, nearly or wholly dried, exhibit the creeks by which their imperfect communication is kept up during the inundation with the Darling and Murrumbidgee. (Oxley, 35-37, 102, 136, 142, 382, 383, &c.; Sturt, i. 36, 38, 62, 148; and Mitchell, i. 321, ii. 32, 771, &c.) The Darling itself, which Sturt found, in 1830, to be a large and powerful stream, was seen by Mitchell, in 1836, to be nearly dry; as it would have been but for the backwater forced into it from the Murray.

The latter, however, from the greater number of its affluents, and perhaps, also, from the nature of the country through which it flows, never loses the character of a continuous river. And though at certain seasons its waters are reduced, its navigation, and that of its tributary the Murrumbidgee, may, it is believed, be depended upon for at least eight months of the year.

The extent of the basin of the Murray may be estimated at from 400,000 to 500,000 sq. m. It, of course, comprises every variety of soil; a large extent of land along its banks and those of the Murrumbidgee being amongst the most fertile hitherto discovered in the continent, though it must be at the same time admitted, that lands of a different and very inferior quality of soil preponderate. But, despite this drawback, it is not easy to imagine the extent of traffic of which the Murray will probably be the channel when the immense country through which it flows has been occupied. It is much to be regretted that its embouchure should be so disproportioned to its magnitude. But that defect has been, to some extent, already overcome or greatly modified by the help of railways. And it is by no means improbable that the *entrepôt* at its junction with the sea may at some future period rival New Orleans in the extent of its trade and navigation.

Lakes are abundant in Australia, as might indeed be inferred from the level nature of the plain country, but none of them are very large, and few appear to be permanent. Lake Alexandrina, the recipient of the Murray, has a very large surface; but, as before observed, it is shallow; and Lake George (lat. $35^{\circ} 5'$, long. $149^{\circ} 15'$), which, in 1828, was a sheet of water, 17 m. long and 7 wide, was said, by an old native female, to have been a thick forest within her memory; and in 1836 it had dried up to a grassy plain. (Mitchell, ii. 313.) The lakes of the interior are subject to the same variation (Oxley, 120-130; Mitchell, ii. 84-37), and when excited curiosity has drawn the traveller from his road to inspect one of these reservoirs, his examination is almost sure to end in disappointment. (Sturt, i. 15.) These lakes, such as they are, abound along the banks of the Lachlan and the Murray, as far as the junction of the Darling; they are so far from yielding any supplies to the rivers, that their own waters seem, in part, to depend upon the latter overflowing their banks. Some of them are, however, quite isolated, and none have any outlet. Many, and those the largest, are salt; and small salt-lakes, or rather brine-pits, appear to be common in the dead levels of the interior both E. and W.

Soil.—Were the soil of Australia merely extremely various in different parts of the continent, it would be no more than what is seen in every other part of the world. But the Australian soil varies according to laws of its own, apparently unknown in any other region. In other countries, rivers are the great fertilizers, and their influence is the greater the longer their course. In Australia, fertility is confined to the higher parts of streams; and, as has been shown, those which promise fairest at their outset from their mountain sources, invariably and quickly either dry in their beds, leaving the country an arid desert, or spread into marshes, rendering it an uninhabitable swamp, equally destructive of animal and vegetable life. Thus situated, it is not wonderful that productive soil should be mostly found on the sides and summits of considerable elevations; or that the explorers of the interior should look for the indications of mountain land with a feverish anxiety, which it is difficult for a native of the fertile plains of Europe and Asia to comprehend. 'Had we

picked up a stone,' says Sturt, speaking of his abandonment of the investigation of the Darling (i. 144), 'as indicating our approach to high land, I would have gone on. But this seemed a desert, that not even a bird inhabited. The vegetable kingdom was almost annihilated; and the native dog, so thin that he could scarcely walk, seemed to implore some merciful hand to despatch him.' This was during a dry season, and the consequent failure of the streams. 'There was not the smallest eminence,' says Oxley (p. 89), under circumstances diametrically opposite, 'whence a view might be obtained, the country appearing a dead level; and although we could see for some distance all round, yet there was not a rising ground in any direction. The margin of the stream was a wet bog, full of water-holes, and covered with marsh plants. It was only on the very edge of the bank, and in the bottoms of the bights, that any eucalypti grew. There was not the least appearance of natives; nor was bird or animal of any description seen during the day, except a solitary native dog;—we seemed, indeed, the sole living creatures in these vast deserts.' 'From a tree near the camp,' says Mitchell (ii. 148), 'Burnett descried a goodly hill, distant 22 m. It was indeed (p. 155) a welcome sight to us, after traversing for several months so much of the dead levels of the interior; and I accordingly named this hill, Mount Hope.' 'Within the water-line' (of Regent's Lake, now a grassy plain), observes the same authority, 'stood dead trees, of a full-grown size, apparently killed by too much water, too plainly showing to what long periods the extremes of drought and moisture may extend in this singular country.' (ii. 34.) Again (ii. 157) he speaks of a row of bare poles, the remnants of yarra trees, eight or ten years old, which occupy the very middle of a stream, though they must have attained their growth while the bed of the river was dry. The soil of these desolate and extensive plains is various; in some places red tenacious clay; in others, a dark hazel-coloured loam, rotten and full of holes: sand is not very abundant, but it is found; and whatever the composition, one unvarying appearance of dreariness and desolation marks the scene. A striking description of Australian scenery is given by Mr. A. Wm. Howitt, who sketched the neighbourhood of Lake Torrens, South Australia, in a letter dated Wilpena, Oct. 4, 1859. He says, 'The great features here are extensive plains, covered with salt bush, and with grass after rain. These plains run between hills, varying from 100 to 2,000 ft. high, and quite destitute of timber. Indeed, the only timber found here grows on the banks of the water-courses, and a few he or she-oaks on the hills. The lower ranges are most like sheep downs; the higher ones are masses of rocks, torn into all kinds of jagged peaks and precipices, and generally of a reddish hue, but, seen in the distance, of a deep indigo. The country is intensely stony, being, so to say, "metalised," and the roads are naturally splendid. It is very hot and dry, and I should fancy must be like the interior of South Africa, only that there are no animals to be seen, excepting kangaroos and kangaroo rats. Large flocks of emus stalk about the barren plains, like some enchanted creatures in the "Arabian Nights." The air is so clear that the distances are difficult to estimate. Altogether, it is a very wild, strange country.' (Howitt, W., *History of Discovery in Australia*. Lond. 1865.) Compared with the gloomy sterility of these flats, no contrast can be stronger than the abundant fertility of the elevated terraces. A rich, dry, vegetable soil, broken into gentle undulations, and watered with the various streams that form the abundant sources of

the internal rivers, is the general characteristic of Bathurst Plains, Liverpool Plains, Yap Plains, and the other districts that stretch away upon the summits and N. sides of the Blue Mountains, and N. of the Liverpool Range. The W. valleys of the same mountains partake also of the same character; and a similar description will apply to the corresponding country on the E. faces of the Darling range. (Oxley, 186, 267, 275, &c.; A. Cunningham, in Field, 181-191; Sturt, i. 6-14, ii. 11-86; Mitchell, i. 27-57; Irwin, 6-8; Dale, in Cross, 51-72, &c.) But the best land hitherto found in Australia, is that discovered in 1836 by Mitchell, near the S. coast, and included in Victoria. It lies among the Grampians and Pyrenees; and, though surrounded and intersected by mud and swamps, its high levels and valleys, abundantly, but not excessively watered, are so prolific, that the discoverer justly congratulated himself on 'being the harbinger of mighty changes, since his steps would soon be followed by the men and animals for whom this fertile region seems to have been prepared.' (ii. 157-289.)

So many theories have been hazarded to account for the host of anomalies in this S. world, and each in succession found to be erroneous, that great circumspection is necessary in offering even a surmise as to the causes of physical arrangements and appearances so much at variation with former experience. One fact, however, forces itself on our notice; the fertile parts of Australia, confined to the higher regions, are as effectually separated from each other by apparently irredeemable deserts, as though the ocean flowed between them. And how many centuries is it since the ocean did so flow? The different explorers unanimously declare the dead flats of the interior to be *new land*,—new, that is, in comparison with the mountains by which they are bounded; while those mountains themselves, judging by their poverty in primitive formations, are apparently more recent than the similar elevations of the N. hemisphere. Sturt believes the Darling to have been the main channel which carried off the last waters of the ocean from the low lands, and its bed—which he esteems an estuary rather than a valley—to have remained the natural and proper reservoir of the streams falling from the E. and W. (ii. 119.) None, however, fall into it in 660 m. (Mitchell, i. 295); but the whole appearance of the country on its banks is strongly corroborative of Sturt's opinion. But what, then, was the condition of the country, previously to that convulsion or change, of whatever kind it might be, which laid bare this extensive tract? Evidently that of island groups, at greater or less distances from each other, the surfaces of which (now the terraces and table-lands of the mountains) had remained exposed sufficiently long to enable mineral and vegetable decomposition to perform its work of creating a fertile soil. The rivers of these islands (now the sources of the anomalous internal streams) would, like other island rivers, run their short courses to the *then* sea, and having performed their office of irrigating the tracts through which they flowed, be there absorbed. On the exposure of the interior all this would be changed. The newly uncovered land, destitute of vegetation with the exception of marine plants, would of necessity remain sterile till the decomposition of these gradually, though slowly, began to form a soil. (Flinders, ii. 116.) The rivers, no longer received into a sea, at no great distance from their sources, would begin to wear themselves channels in the new ground—a process which, while the descent was considerable, would be rapid in its operations; but which, when the stream, reaching

a level flat, had lost much of its initial impetus, would decrease in energy; and, on the occurrence of a hollow, would wholly cease, at least for a season. Such a hollow is the Marsh of the Macquarrie (Sturt, ii. 158), and a succession of such hollows seems to form the marshes of the Lachlan. (Mitchell, ii. 59-61.) The water losing its flow, and spreading over these hollows, deposits in them the fertile debris from its native hills, and thus gives birth to marsh plants, the decomposition of which still farther improves the soil; and, in the season of flood, the washing of this debris to the sides of the concavity, by gradually forming a channel, gives to the exhausted stream new strength to struggle, inch by inch, along its course. That some such process has been at work ever since this land was first explored, seems evident from the bergs, or outer banks of the Murray, Morrumbidgee, &c.; and Mitchell could no otherwise account for the remarkable appearance of many of the lakes which he passed, than by supposing that their hollows existed *before the rivers began to flow.* (ii. 34.) 'We cannot doubt,' says Humboldt (Pers. Nar., iv. 150), 'that in both continents (Africa and Australia) there are systems of interior rivers which may be considered as not yet fully developed, and which communicate with each other, either in the times of great risings, or by permanent bifurcations;' a sagacious remark, made more than ten years before the discovery of the extensive connection between the channels of the Australian streams, by which it is so remarkably confirmed. (See also Carl Ritter, Erdkunde, i. 815.) But if Sturt's surmise be founded in truth, the bed of the Darling, or its continuation, that of the Murray, should be the common drain of all the land between itself and the older mountains towards the E. and S.; and this it is, or is in progress of becoming. The union is effected for all the known streams except the Lachlan and Macquarrie; and of these the former has completed its bed (Mitchell, ii. 78), though it has not yet been able to fill up the hollows which form its marshes in the wet season; and the latter, though much impeded by the extent and lowness of its swamp, is struggling to establish a permanent connection with the Castlereagh, through Morrisett's Ponds (Sturt, i. 146), and with the Darling direct, through Duck Creek. (Mitchell, ii. 32.) The great deficiency of springs and tributary streams is one great cause of the slowness of this operation; but the deficiency itself is only what might reasonably be looked for in a country of recent formation, especially in one where the eminences are so few and so little elevated as they appear to be in the interior of Australia. Springs can be formed only by the accumulation of moisture in the cavities and gullies of hills; and this accumulation must, in the first instance, proceed with extreme tardiness. When overcharged, and not till then, these reservoirs will give forth their superfluous waters; at first by a simple overflow, and, when the additional supply has given to the torrent thus first formed sufficient power to deepen its bed, in a continual stream. (See the very profound article, *River*, in the Ency. Brit., xviii. 39-91, more especially at p. 70, *et seq.*) When this process has been long in operation, these streams will be numerous, and such is the case in the terraces and older mountains of Australia: where the land is comparatively new, they may be expected to be scarce, and they are scarce beyond parallel in the interior of the same continent. Even when become permanent, time must be allowed for them to cut their path to their final channel; and this is a most wise arrangement, since, did such new-

born currents find their way directly to an extensive bed, the source from which they are supplied would be exhausted. Centuries, therefore, must probably elapse between the first appearance of the infant torrent and its final absorption into some river system. In the interval it will pursue its course surely, however slowly; and with a speed and direction varying according to the obstructions which it meets with, and the amount of its initial supply. Many of these incipient streams are found in the interior of Australia, making greater or less approaches to what Humboldt calls the 'development of their system,' the beds of some of them, though dry during the summer heats, exhibiting unquestionable signs of floods at other seasons; while others appear to be permanent to the point to which they have already cut their way. (Sturt, i. 123; Mitchell, i. 209, 249-253, 261, &c.; ii. 32, &c.) But, again, upon the surface of a new country, so singularly devoid of vegetable decay (Sturt, i. 108), production will necessarily be limited to those spots where the rivers and floods have deposited their fertilizing slime. The barrenness of the districts remote from streams and swamps is, in fact, the universal theme of all travellers; while yarra trees so distinctly mark the bed of a river, that the course of the latter may be kept in view even at the distance of the visible horizon, and every flat subject to inundation is crowded with dense shrubs, box-trees, polygonum, kangaroo grass, reeds, and other native vegetation. Here, then, are abundant elements of a soil, the process of forming which is expedited by the remarkably prolonged and fierce extremes of drought and flood to which this region is subjected. (See CLIMATE.) The vegetation of Interior Australia, such as it is, does not live its natural term, or die of natural decay; but when a flood has given birth to that race of trees and shrubs which draw their sustenance from excessive moisture, a long-continued drought destroys nearly the whole tribe (Sturt, i. 145, &c.); while such plants as delight in a dry soil spring from the earth formed from their decomposition, to be in their turn destroyed, after ten or twelve years' growth, by the constant exposure to too much water in a return of the season of floods. (Mitchell, ii. 34, 148, 313.) It is quite clear that this alternation must tend to fertilize the land much more rapidly than if either race of plants continued to draw their nourishment from the newly deposited and still meagre earth, till they perished from pure exhaustion, the more especially as deciduous trees are almost unknown, and consequently one great source of supply, the scatterings of autumn in other regions, is wanting to the native soil of Australia.

It appears probable, then, that both the land and water are here still in a course of formation; that the various anomalies in each which fill the minds of Europeans with wonder, are only the natural appearances of an imperfect, or rather of an unfinished work; and that they will vanish when the causes, now in operation, shall have produced their full effect. These opinions are hazarded, however, with much diffidence; and only because they appear to result from the facts collected by actual observers.

Climate.—About a third part of the Australian continent, the N. part, together with the large island of New Guinea, and the other isles enumerated at the beginning of this article, with the exception of New Zealand, lie in the torrid zone. The other portion of the continent, the islands immediately adjacent, and New Zealand, are in the S. temperate zone. The proportion of inter-tropical to extra-tropical land is, therefore, altogether about as 5 to 12. (Malte-Brun's Tab. xii.

270, 375.) Of the general climate in the former portion little is positively known, though it may be too probably inferred that it resembles generally those regions of the N. hemisphere similarly situated, where running water is scarce; that is, that a considerable portion of it is burned up with intense heat. On the N. coast a wind from the S. raises the temperature with extreme suddenness, and a N. wind produces the same effect on the S., arguing, in both cases, a passage over a highly-heated soil. Tropical Australia is in the range of the Indian monsoons, of which the NW. sets in usually about the beginning of November, and that from the SE. in the early part of April. There is, however, much irregularity in their recurrence, the variation sometimes amounting to more than a month. (Campbell, in *Geog. Journ.*, iv. 148.) In these regions the seasons can scarcely be divided into dry and rainy; for though the NW. (or summer) monsoon be attended with very heavy falls, yet they seldom continue above two or three hours at a time, so that they rarely, if ever, put a complete stop to out-door labour. From June to September no rain falls, though these are unquestionably the healthiest months of the year. A great quantity of moisture must, however, at all times be suspended in the atmosphere, though imperceptible to the senses, during the prevalence of the dry or SE. monsoon: for iron articles are kept from rusting only by incessant care; and the exposed surfaces of the rocks, along the inter-tropical coasts, are so generally coloured by the oxide of iron, that the term red might without impropriety be adopted as descriptive of the NNE. and NW. shores. (Campbell's *G. J.* iv. 149; King, i. 396.) The average temperature at Melville Island, on the N. coast, from April 1827 to March 1828 was 83° Fah.; the winter average 80°; that of the summer 86°; and the extreme averages 75° (for July), and 87° (for Dec.). It may also be observed that the coolest part of the day appears to be 6 A.M., the temperature of that hour being from 1° to 7° lower than that of midnight. (Campbell's *G. J.* 152.) With regard to Extra-tropical Australia, it is a pretty common observation, that the climate of N. S. Wales assimilates very closely to that of S. Italy; but this must be taken with some limitations. First, the atmosphere is very considerably drier; secondly, the extremes of temperature are greater; thirdly, the average heat is rather less; and fourthly, the temperature appears to decrease more rapidly by elevation. According to Count Strzelecki, at an average of the three years ending with 1843, the maximum temperature at Port Jackson was 81·9°, the minimum 45·8°, and the annual 66·6°. At Port Macquarie, more to the N., the maximum temperature during the same three years was 88·3°, the minimum 46·8°, and the annual mean 68°; and at Port Philip, more to the S., the maximum was 90·6°, the minimum 36·9°, and the mean 61·3°. (Physical Description of N. S. Wales and Van Diemen's Land, 229.) It appears, also, contrary perhaps to what is the common opinion, that the quantity of rain falling at Port Macquarie amounts to 62·68 inches; at Port Jackson to 52·42 ditto; and at Port Philip to 30·72 ditto. But notwithstanding this abundance of rain, the climate is properly characterised as dry; and it is a curious but well-authenticated fact, that floods on the coast occur simultaneously with dry weather in the interior, and conversely. May is the rainy season on the coast; in the interior the rains fall during the summer, or between September and February. The spring months comprise September, October, and November; those of summer, December, January, and Febru-

ary; those of autumn, March, April, and May; and those of winter, June, July, and August. This is as regards the continent of Australia; but the climate is very different in the islands of Australasia, particularly at New Zealand. In some parts here it rains often for many months together. Mr. Sherrin, the explorer, while examining the western coast of New Zealand, suffered fearfully from the excessive wet. 'I remember only three fine weeks during the six months we were on the coast,' he says in his journal. (Printed in the *Christchurch Press*, January 1864.) Describing his journey to Lake Brunner, he exclaims, 'Oh, the unutterable misery of that journey! Rain every day; directed wrongly by the natives . . . this trip was the worst and hardest that I ever remember in the whole course of my life. Wet through all the time; scarcely ever dry at night; freshes every hour; a mist hanging heavy and dense, covering every thing: the journey was worse than description can paint it.' (Howitt, *Wm.*, *History of Discovery in Australia, Tasmania, and New Zealand*, Lond. 1865.)

An important division of the Australian climate, that is, of the continent of Australia, into wet and dry, is marked by periods or cycles of ten and twelve years each. Once in such cycles, a year of unmitigated drought prevails, during which no rain falls, and the effects of which are equally intense on the coast and in the interior. Close upon this visitation follows a year of flood; but the rains, which are at first continuous and as general as the preceding drought, decrease with every succeeding year, till they again wholly fail for a time. It follows, therefore, that the two or three years following the great droughts may be denominated the wet *period*, and that an equal space of time preceding the great droughts may be regarded as the long dry season of Australia. It is only in the intermediate years that the regular recurrence of seasons, noticed above, is observable. (Oxley, vii.; Sturt, i. liv. 1.) A great drought began in 1824, and did not terminate till 1829. Very little rain fell during the whole of this lengthened period, and during the last six months there was not a single shower. In consequence, the whole surface of the ground was so parched and withered that all minor vegetation ceased, and even culinary vegetables were raised with much difficulty. Many of the settlers were well nigh ruined; and the cattle did not for some years recover from its effects. (Breton's *N. S. Wales*, 296; Sturt's *S. Australia*, i. 2.) In 1847 the Maneroo Plains, an extensive squatting district, suffered from a similar cause. The mortality among the flocks and herds was frightful; the water-holes being nearly all dried up, and filled with the carcasses of sheep and cattle. (Southey on Colonial Wools, 80.) Fortunately, however, these visitations are not of frequent occurrence, and when they do occur, they are mostly confined to not very extensive localities. On these occasions, and in the remoter places, cattle frequently stray away in search of water, and either perish or are lost to the owners. In reference to the reverse order of the seasons in Europe and Australia, it is worthy of remark that a cold winter in the one appears to be coincident with a hot summer in the other, and conversely. (P. Cunningham, i. 218.) For the rest, dews are very abundant, and, fortunately, fall the heaviest during the summer heats and the long-continued droughts. Hail-storms are frequent, as are also thunder and lightning; the latter flashing frequently for a succession of days, wholly unaccompanied by the former or by a single drop of rain. Earthquakes are occasionally felt on the N. coast. The climate of Extra-tropical Australia is pecu-

liarily favourable to the human constitution, probably from the deficiency of vegetable decomposition. Endemic diseases are almost unknown: even small-pox, measles, and hooping-cough are strangers; but the hot N. wind produces ophthalmia; and the teres, or round worm, is the common pest of childhood. Dysentery is the most prevalent disease; but one proof, and that a strong one, of the healthy nature of the atmosphere, is the facility with which all disorders, even the worst cases of venereal affection, yield to the simplest remedies. The N. coast is unhealthy, but certainly less so than most other tropical countries. Typhus and acute fevers are there prevalent in the wet monsoons; and during the period of variable winds, pectolopia (moon blindness) appears to supersede ophthalmia; and scurvy seems to be an endemic, exhibiting itself with peculiar virulence where the tropical heat is exercised upon a damp soil. Even here, however, sickness puts on a generally mild form: the number of deaths, from disease, in Melville Island was only 1 in 9 for four years, or 1 in 86 per annum. (P. Cunningham, i. 171-173; Campbell's G. J. iv. 149-151, 168; Wentworth, 55; Irwin, 4, 124.)

Mineralogy.—Iron is spread in great profusion over all the continent and its adjacent islands. The immense extent of iron oxide on the N. coast has been already alluded to, and several of the mountains violently affect the magnetic needle. (Oxley, 259; Sturt, i. 115.) Copper and lead (the latter mixed occasionally with silver and arsenic) have been traced both in the Blue Mountains and the Darling range, as well as, in still greater abundance, in the hilly tracts adjacent to Adelaide, in S. Australia; and mining has become an important branch of industry carried on in that colony. (See AUSTRALIA, SOUTH, VICTORIA, and the description of the other Australian colonies for more detailed notices of mineralogy, mines, and mining operations.) But the mines of coal, copper, iron, and other ordinary minerals found in Australia, have been rendered of little importance, compared with the gold deposits with which it is profusely endowed. These are of the most extraordinary productiveness. The gold is found at various points, mostly on the western flanks of the great mountain chain which runs parallel to and at no great distance from the E. coast of the continent. This chain consists of a great variety of rocks; those of primary formation being in many parts pierced and broken through by those of igneous origin. Numerous quartz veins are found in the rocks; and these form the matrix of the gold, which is most frequently found with the quartz adhering to it, and accompanied with iron.

The existence of gold in this mountain chain had been conjectured on theoretical grounds by Sir R. J. Murchison and other eminent geologists. But its existence was not practically ascertained till 1851, when an extensive gold field was discovered near the town of Bathurst in N. S. Wales, about 120 m. WNW. from Sydney. The discoverer, a Mr. Hargrave, received a reward of 10,000*l.* A great variety of other gold fields have since been explored, especially in Victoria, where they are of unparalleled richness.

The gold hitherto found in Australia has all been obtained from 'diggings' in the beds of streams descending from the mountains, or in the detritus in ravines and hollows on their flanks. It is found in every variety of form, in grains or dust, in flakes or scales, and in lumps or nuggets. The separation of the smaller particles from the earth is effected in the same way as in California, by washing. But though the labour be severe, it is less so than in the latter. And owing to the

water being less cold, and the sun less powerful, the health of the diggers is not exposed to so severe a trial here as in California.

The effect of the discovery of gold in Australia has been most striking. At the outset it threatened a total disruption of society; and it has made a great change in all the social relations that formerly prevailed in the continent. The demand for labour, the rate of wages, the prices of lodgings and of most articles of provision, have increased in an unprecedented degree. Hence, also, a vast amount of emigration has been directed to Victoria and N. S. Wales, and population and trade have made astonishing advances.

Though unfavourable at first to those engaged in agricultural and pastoral pursuits, the latter have now nearly recovered from the shock, and will probably become more prosperous than ever. The 'diggings' are now beginning to be prosecuted more as a regular employment than as a gambling adventure. Many of those who were at first attracted to them from other departments have since returned to their former pursuits; while the rapid increase of population, by occasioning a proportional increase of demand for other products, has given a new and powerful stimulus to almost every branch of industry. In proof of this we may refer to the carcasses of sheep, which, from being worth little or nothing, have, in consequence of the greatly increased consumption of butcher's meat, become of much greater value than the fleeces.

Botany.—It is well known that Botany Bay received its name from the abundant vegetation which Capt. Cook and Sir J. Banks found flourishing on its coasts; but its soil was notwithstanding found to be unprofitable, barren, and totally unfit for a settlement, which was, in consequence, established at Port Jackson.

The first great division of plants is into two great classes: the Cryptogamous, which have no blossoms nor visible means of fructification; such are mosses, ferns, fungi, &c.: and the Phanerogamous, which are reproduced by visible organs. This class includes, of course, all the higher orders of vegetables, but is subdivided into Monocotyledonous plants, such as have but one seed lobe; and Dicotyledonous plants, which are possessed of two or more: the former comprises the grasses, cyperaceae, &c.; the latter those productions of the earth, the organisation of which is most complicated, as the trees, superior shrubs, &c. The following table exhibits an outline of the arrangement of these primary orders in Australia. It is offered merely as an approximation, for knowledge on this subject is yet but scanty; but it has been constructed with much care from Brown's 'Botany of Terra Australis' (Appendix to Flinders, 533-613); the botanical papers of A. Cunningham (Appendix to King, 597-565); Field's Memoirs, 325-365; P. Cunningham (i. 186-206); Oxley, *passim*; Sturt, *passim*; Mitchell (i. xx. *et passim*).

Orders	Whole No. of known species	Whole No. of Aust. Species	No. of spec. com. to Aust. and other Regions	No. of Species peculiar to Aust.
Cryptogamous	6,000	700	210	490
Monocotyledonous	6,900	1,144	40	1,104
Dicotyledonous	31,091	3,866	20	3,846
Total . . .	44,000	5,710	270	5,440

So profound were the early investigations of Brown in this newly-opened region of strange vegetation, that his name was given to it as a dis-

tinct botanical kingdom. (Lindley, 522.) In his day the known plants of all the world amounted to 33,000 species, those of Australia to 4,200. (Flinders' Appen. 586.) The labours of succeeding botanists have done little more than enlarge the list, without at all affecting the arrangement, and only in a very trifling degree altering the various proportions. The first fact which strikes the observer in the foregoing table is the very great number of peculiar Australian species, amounting to nearly one-eighth part of those at present known. This is a proportion much greater than could be looked for from the relative magnitude of the region, and which, were the individuals of each species in anything like a similar ratio, or were the species themselves of a kind highly useful to man, would render Australia a paradise. Unfortunately, neither is the case. Ferns, nettles, flowers, and even grasses, having the form, bulk, and habits of trees, are some of the distinguishing features in Australian vegetation; for the rest, the timber is generally of the hard-wood kind, consisting of all the varieties of Eucalyptus and Casuarina, with some varieties of the rose-wood, sandal-wood, and cedar. Most of the eucalypti are called gum-trees, though the exudations of many of them are properly resins, being insoluble in water; while others yield a manna as fine and as pure as that of Arabia. Another species yields the purest gum-arabic. There is a tree here called the tea tree, the leaves of which are used by the colonists instead of the Chinese plant; and there are also some medicinal trees, as the sassafras and the castor-oil tree. Palms are limited to the N. and E. shores, on the former of which the tropical mangrove grows in all its luxuriance; and, in fact, the peculiar aspect of Australian vegetation disappears in this part of the continent, being superseded by one assimilating more to that of India. In Tropical Australia the greater number of those plants are found which are common alike to this and other continents. It has been before observed that, with one exception, the Australian trees are evergreens: many of them are remarkable also for the inverted position of their leaf; the margin, and not either surface, being directed towards the stem. An Australian grove has, consequently, a peculiar and gloomy appearance; nor is the timber that it yields of the highest utility to the architect, being liable to rot at the heart, and so contractile that it has been known to shrink upwards of two inches within a week. (P. Cunningham, i. 192.) It remains to be observed that the trees in Australia are rarely so numerous as to impede home travelling; and as a remarkable fact, that they appear to be most abundant on inferior soils. (Gov. Rep. Oxley, 368.) Flowering plants of very great beauty are found; but the lily, tulip, and honeysuckle exist in the form of standard trees of great size. There are also odoriferous plants, which scent the atmosphere to a great distance; and prickly shrubs, which grow upon sandy soils, and bind them down, thus preventing that drift which is the bane of the Arabian and African deserts. (Mitchell, i. 222; ii. 106, &c.) Grasses are abundant and nutritious, but they grow in detached clumps, so that a heavy continuous sward, resembling an English meadow, is unknown. Flax, tobacco, a species of cotton, tares, indigo, chicory, trefoil, and burnet (the last a good substitute for tea), are among the natural productions, but there is an unparalleled deficiency of fruits and of vegetables fit for human food. The *cerealia* are totally absent; and the best substitute for them appears to be a species of reed, which, however, Mitchell found to make a very light cake. The only native fruits are raspberries, cur-

rants (more like cranberries), one or two tasteless fruits, and a species of nut. The useful productions of other lands are now, however, extensively acclimatised, and corn crops and orchards are found in every fertile spot in the settled districts. Every species of corn, including maize, is cultivated with success; while of foreign fruits, the orange, lemon, citron, nectarine, apricot, peach, plum, cherry, fig, mulberry, quince, banana, guava, pine-apple, grape, and many others, have long been a source of profit to the smaller settlers. The capabilities of the soil are thus attested; nor can there be a doubt that the sugar-cane and other tropical productions would thrive in the lower latitudes of the N. Some districts here, especially those lying on the banks of the Victoria river—called the 'Barcoo' by the natives—are extremely fertile. Sir Thomas Mitchell, who visited the country in 1845, describes it as one of milk and honey. There was a vegetation as abundant as that of South America; immense trees lined the bank of the river, flocks of cockatoos filled the air with their deafening chorus, and water-fowl, in vast numbers, glided across the flood, and flew up and down over the neighbouring reaches.

Zoology.—Animal existence in Australia assumes a form more anomalous and peculiar than even that which marks its Botany. The following tables have been constructed with every possible care from the 'Règne Animal' of Cuvier, with the additions of Griffith, Gray, &c., the Zoology of Shaw, the transactions of the Linnean Society, and the works of the various travellers in Australia.

In these tables, Cuvier's great orders of Carnassiers and Passeres are divided into their several families; the former into Cheiroptera, Insectivora, Carnivora, and Marsupialia; the latter into Dentiostres, Fissirostres, Conirostres, and Tenuirostres.

CLASS MAMMALIA.

Orders	Whole No. of known Species	Whole No. of Austr. Species	No. of Sp. com. to A. and other Regions	No. of Sp. peculiar to Australia
Quadrumanæ	155	0	0	0
Cheiroptera . .	138	2	1	1
Insectivora . .	27	0	0	0
Carnivora . . .	177	87	5	3?
Marsupialia . .	59	33	0	33
Rodentia . . .	192	6	1?	5
Edentata . . .	21	4	0	4
Pachydermata . . .	24	0	0	0
Ruminantia . .	142	0	0	0
Cetacea . . .	27	5	5	0
Total . .	960	58	12	46

AVES. (BIRDS.)

Orders	Whole No. of known Species	Whole No. of known Australian Species	Species common to Austr. and other Regs.	No. of Sp. peculiar to Australia
Accipitres . .	251	16	6	10
Dentiostres . .	1,273	180	7	123
Fissirostres . .	128	12	1	11
Conirostres . .	440	20	3	17
Tenuirostres . .	313	30	1	29
Syndactyles . .	116	7	0	7
Scansores . . .	452	34	0	34
Gallinæ . . .	345	20	3	17
Grallæ . . .	335	25	4	21
Palmipedes . .	289	22	2	20
Total . .	8,972	316	27	229

From these tables, which, though not embodying the most recent discoveries, yet sufficiently valuable for general purposes, it appears, first, that the native animals of Australia are few in number;

and, secondly, that they are very peculiar in kind. Of all the known Mammalia in the world, but fifty-eight species, little more than one-seventeenth part of the whole, belong originally to this region. Of these fifty-eight species forty-six were never heard of till they were first met on this soil; and of the twelve species common to Australia and other regions, five are whales, and four (out of the five Carnivora) seals; so that, in truth, of the *terrestrial* Mammalia, only three species are common; of which one is the large and strong-winged bat of Madagascar, another (the single and questionable common rodent) is regarded by Mr. Ogilby as connected generically only with the Jerboas of America and Asia (Linnean Trans. xviii. 129-132), and the third is the dog, of which it is a remarkable fact, that he is never found out of the society of man, and very rarely absent from any spot which man inhabits. The authority just quoted (p. 121) believes, indeed, that he is not an aboriginal inhabitant of this continent, but that he came to it with the first primitive settlers, in the same state of savage domestication in which he now exists. He was unknown in Tasmania (Van Diemen's Land) before the settlement of the British colonists there. (p. 122.) The other three Carnivora (probably only two) marked in the table as peculiar to Australia, are seals (Griffith's Synopsis of Cuv. 180-188); so that the whole of this important order, together with the numerous tribes of the *Quadrumania*, *Pachydermata*, and *Ruminantia*, are absolutely without any known land-representatives in this extensive portion of the globe. (Ogilby, Linnean Trans. xviii. 121.) Of the *Edentata*, four species are marked in this table, after the arrangement of Cuvier (iii. 263-265); but that arrangement was made in the utter despair of forming a better, and not because it had any systematic analogy to recommend it. Toothless, or all but toothless, the creatures unquestionably are; but classing them in this order reduces the naturalist to the dilemma of admitting that there are Mammalia which do not possess the distinctive mark of the class. The *Echidni* and *Ornithorhynchi* are *destitute of teeth, and do not suckle their young*. The former genus consists of two species of porcupines, one entirely covered with thick spines, the other clothed with hair, in which the spines are half hidden. The *Ornithorhynchi* consist also of two species—*O. paradoxus* and *O. fuscus*. Possessing the body and habits of a mole, the feet and bill of a duck, and the internal formation of a reptile, these creatures lead a burrowing life amid the mud of rivers and swamps. They are extremely shy, and hence their mode of reproduction is yet unknown. Should they be oviparous, it would be perhaps more consistent to class them with the *Reptilia* than with the *Mammalia*: but, at present, their hot blood seems to forbid such an arrangement. The *Ornithorhynchus* has two cheek-teeth in each jaw: but they are without roots, and are merely fibrous. (Cuvier, iii. 264.)

Of the *Rodentia*, two species belong to the sub-genus *Hydromys*, and consist of creatures that seem to unite some of the peculiarities of the dormouse, rat, and beaver. (Cuv. iii. 72.) According to Griffith (Synop. Cuv. 222), they are the *only* true *Hydromys*, are peculiar to Australia, and almost to Van Diemen's Land. A new genus of *Rodentia* was made known by Mitchell's expedition in 1835, which has been called *CONILURUS*, to mark its general resemblance to a rabbit. It is, however, a rat; and the species found by Mitchell is remarkable for the formidable defence which it builds for itself against the dingo (native dog),

and birds of prey. From this habit it has been named *Conilurus constructor*. Two species of mice (both peculiar), and the *Dipus Mitchelli* (the Australian jerboa), discovered by Mitchell in 1836, complete the list of Australian *Rodentia*, unless a small animal, omitted in the table, from the uncertainty of its classification, belong to that order. Mitchell names it *Myrmecobius rufus*, but with considerable doubt, and says that it was generally called the 'red shrew mouse' by his party. (i. 17.) Should it prove to belong to the genus *Sorex*, it is the first instance, in Australia, of the order *Insectivora*. With these few exceptions, the whole of the Australian *Mammalia* consist of the very peculiar order *Marsupialia*, of which order more than four-sevenths are limited to this continent and its adjacent islands. The leading peculiarity in animals of this order, is the birth of the young in an immature state; in such a state, in fact, as is scarcely comparable to the ordinary development at which other foeti arrive within a few days after conception. From the time of this premature birth, without limbs or other external organs, the little animal remains attached to the teat of its mother (which enlarges, so as completely to fill the mouth), and enclosed in a natural pouch formed by the skin of the abdomen. It is this pouch which is the distinctive mark of the order; and its use induced Linneus to arrange such species of these animals as he knew, under his genus *Didelphis*, a word implying double matrix. At the period of full development, the young fall from the teat, and this may be regarded as the real moment of birth; but for a long time after the dam continues to carry her offspring in the same receptacle; and the latter, even after they can walk, constantly return thither on the approach of any danger. This remarkable conformation is observed in every marsupial animal, and the arrangements of bones and muscles, necessary to it, is found in the males as well as the females. In other respects, however, the several genera of the order differ so essentially, that the whole might be regarded as forming a distinct Class of *Vertebrata*, and divisible, like the other *Mammalia*, into various orders. (Cuv. ii. 61-63.) The kangaroo, the largest animal of this order and of Australian *Mammalia*, has been known since Cook's first voyage. (Hawkesworth, iii. 576.) It is as large, in some of the species (of which Griffith enumerates ten), as a good-sized calf, is very large in its hinder quarters, and disproportionately small forwards. Its fore-legs are very short, and quite useless to the animal's motion, which is effected by a succession of springs, assisted materially by its long and powerful tail. The attitude is erect, except when feeding; the colour various in the various species, but is generally of different shades of grey. One species (*K. rufus*), however, is red and white. The other animals are the *Potorus*, *Phalangers* (so named by Buffon, because the only species with which he was acquainted had two toes united by a membrane), the *Dasyuri*, the *Perameles*, the *Petaurista*, the *Phascolartos*, and the *Phascolomys*. The different species of these genera vary in size from that of a rat to that of a dog; the largest, the dog-faced *Dasyurus* (*Thylacynus Harisi*), and *Dasyurus ursinus* (the devil of the colonists), being confined to Van Diemen's Land. (Ogilby, Linn. Trans. xviii. 122.) The former resembles closely an ill-made dog, but is marked with zebra-like stripes; the latter is represented as an extremely ugly and disgusting-looking animal, whence his colonial name. The other species of the *Dasyuri* approach in size and outward appearance to the weasel tribe. The *Phalangers* of Australia are not all

distinguished by united toes; on the contrary, some of them, as the Vulpine Phalanger, approach in the formation of their extremities, to the Quadrumana. (Shaw's Zoology, i. 489.) Some of these, the instance taken, for one, are pretty and graceful animals. The *Petaurista* are a sub-genus of the Phalangiers, and distinguished by an extension of the skin of the side, so as to form a kind of parachute; they are sometimes called flying Phalangiers. Of this genus the *Didelphis Sciurus* (squirrel opossum) has so much the appearance of a squirrel, that a close inspection is necessary to detect its marsupial character. (Shaw's Zoo. N. Holl. 29.) The *Parameles* approach in form and habits to badgers, and indeed are called pouched badgers; they differ from the other Marsupialia in the weakness of their tail, that member being generally serviceable to this order, either by its strength or its prehensibility. (Griffith's Notes, Cuv. iii. 39.) The *Phascolarctos*, or Koala, as it is more commonly called, consists of only one known species; it has a clumsy body, about the size of a moderately large dog, short legs and claws, adapted for climbing and burrowing. The female carries her young, for a long time, on her shoulders, and not in her marsupial bag. Some naturalists have referred this animal to the Phalangiers, and others have denominated it the New Holland sloth. It has, however, no resemblance to the *Tardigrada*, possesses cutting teeth, and is destitute of canines. (Cuv. ii. 76; see also iii. 252; and Griffith's Synops. 294.) The *Phascologmus*, like the last genus, contains at present but one species, the wombat of the colonists. It is a plantigrade animal, extremely slow in its motion, and is about the size of a badger. Shaw (i. 504) mentions this creature under the name of *Didelphis ursina*, and a second species is suspected to have been seen by Bass. (Cuv. ii. 78.)

In habits the different genera of the Marsupialia differ as much as they do in form. There is scarcely, indeed, an order of the whole class Mammalia to which one or other of them does not assimilate. Thus, the *Dasyuris* are carnivorous, and have many of the habits of the *Felines*; the Phalangiers are insectivorous, and it has been already stated that some of them approximate in form to the *Quadrumana*; a similar approach will, perhaps, be admitted of the *Petaurista* to the *Cheiroptera*; and the *Phascologmus* or wombat is a true rodent. (Cuv. ii. 61-78.)

The kangaroos, though strictly herbivorous, cannot be compared with any known genus but themselves; and the useful orders of *Ruminantia* and *Pachydermata* are unrepresented by any marsupial form.

But those tribes comprising most of the animals that, by their strength, docility, fleece, or hide, and the nutritious quality of their flesh, are most useful to man, though only recently imported, are now extremely abundant in all the settled parts of Australasia. On the 1st of May, 1788, a stock was carried out by the first settlers of 1 stallion, 3 mares, 3 colts, 2 bulls, 5 cows, 29 sheep, 19 goats, 49 hogs, 25 pigs. (Phillip, 110.) And from this late and scanty stock, assisted by a few subsequent importations, have been derived all the vast numbers of sheep and other useful animals now to be found on the Australian continent. It is needless to trace their progress in detail. Suffice it to say, that though for a while their increase was comparatively slow, there were in New South Wales alone in 1810, 25,888 sheep and 12,442 head of cattle. In 1822 the former had increased to 230,158, and the latter to 122,939. On the 1st of January, 1863, the province of New South Wales had 6,145,651 sheep, while Victoria had, on the

31st of March, 1863, no less than 86,067 horses, 576,601 head of cattle, and 6,764,851 sheep. So rapid an increase is probably unequalled in the history of the world. It is clear, therefore, that the pastures and climate of Australia are well adapted to the useful animals so long strangers to its soil; and the beneficial changes which their introduction has effected in this new land, is one of the most interesting instances of the power possessed by man of modifying the physical peculiarities of the world which he inhabits. (For farther details regarding the progress of agriculture as well as of trade and commerce, in the states of Australasia, see the separate articles.)

The ornithology of Australia is less anomalous than its mammalogy: no order of birds is without its representative, and there are but two Australian species of which are wholly peculiar. Yet the common species bear a very small proportion to those which are peculiar; and, for the most part, are common only to N. and E. Australia, and S. Asia, or the nearer Polynesian islands. Several genera are wanting; all the tribes of usual singing birds, for instance: and of the common species, the most numerous are, as might be expected, those of strong flight and comparatively light bodies; such as the *Accipitres* (birds of prey) and the *Dentirostres* (shrikes, pies, &c.). Among the rapacious birds, the most singular is a white eagle, which Cuvier thought was only an albino of some other species (vi. 49), and which Shaw referred to the list of hawks (vii. 93), but which subsequent investigation has proved to be a true eagle. (Griffith's Notes Cuv. vi. 50.) Among the order *Dentirostres*, are some species of great beauty; the superb warbler, a bird having the habits of the redbreast, is perhaps the most beautiful. There are also some variegated thrushes; but of these and other birds of this order, though very accurate descriptions be given of their appearance (Phillip, 157; Shaw's N. Holl. Zoo. 25), nothing is said respecting their notes; and it may be inferred that, notwithstanding their names, they are songless. A species of thrush, called thunder bird (Cuv. vi. 454), has obtained from the colonists the name of the *laughing jackass*, from his peculiarly loud and discordant cry. Swallows and goatsuckers, of the order *Fissirostres*, are numerous; and of the *Conirostres*, the most remarkable species are the beautiful birds of paradise, which are almost confined to New Guinea. There are also several crows and magpies of this order; but the larks (so called) are but poor imitations of those of Europe, and appear all to belong to Cuvier's genus of field larks (vi. 480), and consequently to the order *Dentirostres*. Of the *Tenuirostres*, the various species of the *Epimachi* are, like the birds of paradise, confined to the N. parts of Australia; like them, their plumage ranks amongst the most beautiful; and like them, too, they have been the subjects of innumerable fables. (Cuv. vii. 882.) The *Syndactyles* give to Australia its kingfishers and bee-eaters, of which the sacred kingfisher of the first, and the variegated bee-eater of the other, are worthy of notice for the extreme beauty of their covering. All the Australian species of this order are peculiar, as are also those of the *Scansores*, consisting of the parrots, paroquets, cockatoos, &c. These last are very numerous in the Australian woods, supplying there the place of the European songsters. (P. Cunn. i. 216.) The pheasants, quails, and pigeons of the order *Gallina*, are tolerably numerous; and, according to Cunningham, the mountain pheasant is a bird of song. The same gentleman makes the same remark upon one species of Australian magpie (i. 302), and states further, that wild turkeys, of two varieties, are

found; but these are, most probably, a species of bustard, and belong to the order Gallæ, which yields also the emu or Australian cassowary, nearly equal in size to the ostrich, and resembling it in many important particulars. (Cuv. viii. 298.) Of this order, Australia has also some species of curlews, herons, avosets, rails, &c. (Cuv. viii. 342-394.) Lastly, of the Palmipedes, there are in this region pelicans, boobies (so numerous as to have given name to an island on the N. coast), petrels, penguins, ducks of a peculiar kind, and swans which realise the *rara avis in terris* of the Latin poet, being coal black. (Cuv. viii. 561-624.) It remains to be observed, that the eighteen turkeys, twenty-nine geese, thirty-five ducks, and eighty-seven chickens, which arrived in New South Wales in 1788 (Phillip, 110), have multiplied to an extent not surpassed by the sheep. Within the last few years some of our singing birds have also been transplanted to Australia, and there seems little doubt that the songsters of Europe will before long be acclimatised to the woods at the antipodes.

The reptiles of Australia are comparatively more numerous than either the Mammalia or the Aves. They consist of two or three genera of turtles; as many varieties of alligators; and a considerable number of lizards and serpents, both venomous and harmless. The land lizard and the Coluber porphyriacus (crimson-sided snake) are represented as of extraordinary beauty. The seas and rivers 'abound in fish, many of them peculiar; and the Watts' shark, the smallest of the species at present known, is remarkable for having the mouth near the end of the head, instead of underneath, as in other animals of this genus.' The insect tribe are very numerous, but they appear to differ far less than the other animals from those in other countries similarly situated.

Races of Men.—If the division of the human family, by Blumenbach, into five varieties, be rigorously abided by, the native of the continent of Australia must be classed with the Ethiopian, or negro, as approaching, upon the whole, nearer to his conformation than to that of any other race. But Mr. Crawford (Hist. Ind. Arch. i. 24) says that the 'east insular negro is a distinct variety of the human species;' and, indeed, he has peculiarities quite sufficient to make his classification with the African Ethiop one of considerable violence. 'The skin is lighter; the woolly hair grows in small tufts, and each hair has a spiral twist; the forehead is higher, the nose much less depressed, and the buttocks are so much lower than in the African, as to form a striking mark of distinction.' It is to this race, if any, that the Australian must be referred; and the inhabitant of the continent recedes still more from the true negro, by having straight, or at all events curling, hair. Capt. Cook's description of this race has been verified by every succeeding observer. 'The skin,' says he, 'is of the colour of wood soot, or what is commonly called chocolate colour. Their features are far from disagreeable; their noses are not flat, nor are their lips thick; their teeth are white and even, and their hair naturally long and black; it is, however, cropped short; in general it is straight, but sometimes it has a slight curl; we saw none that was not matted and filthy, though without grease, and to our great astonishment free from vermin. Their beards were of the same colour with their hair, bushy and thick; but they are not suffered to grow long.' (Hawkesworth, iii. 632.) The colour of the Australian does not appear to be uniform; some, even when cleansed from their filth, are nearly as dark as the African, while others have a tint not deeper than that of the Malay. The Australian is gene-

rally tall and slender, with little development of muscle, and more remarkable for agility than strength. Prichard, after comparing the various authorities, describes them in the last edition of his great work as follows:—'The stature of the Australians is moderate, and often below the mean. The limbs among many tribes are slender, thin, and in appearance of disproportioned length, while some individuals, on the contrary, have them stout and well-proportioned. Their hair is not woolly; it is hard, very black and thick; they wear it dishevelled, and in general short, in frizzled masses. Their beard is of the same nature as their hair, commonly rough and tufted on the sides of their face. Their countenance is flattened, nose very large, with nostrils almost transversely placed, thick lips, mouth of disproportionate width, teeth projecting but of the finest enamel. Loose circular ears very amply developed, and eyes half closed by the laxity of their upper eyelids, give to their physiognomy a savage and repulsive aspect. The colour of their skin, generally of a smoky black, varies in its hue, which is never very deep. The Australian women, still more ugly than the men, have squalid and disgusting forms; the distance which separates them from the *beau idéal* appears immense in the eyes of a European. A great number of families place in the septum of the nose round sticks, from four to six inches long, which give a ferocious aspect to their countenances.' (Researches into the Natural History of Mankind, i. 256, 4th ed.) It must be remarked, however, that the Tasmanians (inhabitants of Van Diemen's Land) are woolly headed, as are also the natives of New Caledonia, New Guinea, and the other islands considered in this article as constituting Australasia, with the single exception of New Zealand. The latter, though more remote from the Polynesian islands than any of the others, is inhabited by the brown race of those groups which is said by Crawford (i. 18) to have the same superiority over their sooty neighbours that the white men of the West have over the African negro. The physical distinction between the continental and insular Australasians is otherwise very great. The continent of Australia may with great propriety be regarded as the native home of a distinct and decidedly inferior variety of the human race (Crawford, i. 24), which has spread itself to a considerable distance N. and E. among the islands of Polynesia and the Indian archipelago, and even to the S. extremity of continental Asia. That this variety is, physically considered, the lowest in the scale of rational beings, is sufficiently evident. Puny and weak, in comparison with the African negro, the Australian is hunted down, without making any effectual opposition, whenever he is encountered by any of his fairer neighbours; while the African is subdued only by superior intelligence, and successfully resists mere physical force. As personal strength is one effect of superior physical structure, the following results may be interesting. They are the averages deduced from the power exhibited in the arms and loins of thirty-nine Australians, fifty-six Timorians, seventeen Frenchmen, and fourteen Englishmen. These people were found capable of bearing respectively the following pressures:—

Strength	Of Arms in Kilo- grammes	Of Loins in Myria- grammes
12 Tasmanians, av. . .	50.6	
17 New Hollanders, av. . .	50.8	10.2
56 Timorians, av. . .	58.7	11.6
17 Frenchmen, av. . .	69.2	15.2
14 Englishmen, av. . .	71.4	16.3

(Lawrence, 404.) The Timorians, it should be

observed, are of the brown race; and it may be seen that in strength of arm they exceed the Australians more than they fall short of the Europeans. Between these two, the *weakest* English arm was more powerful than the *strongest* Australian, and the most muscular of the latter could bear upon his loins only half a myriagramme more than the weakest of the former.

The Australian is not more inferior in physical vigour than in moral and intellectual attainments. His is the only race with which we are acquainted, that has no sort of clothing. The Australian has domesticated no animals, and has no knowledge of agriculture, even in its simplest form. His huts, inferior by many degrees to the wigwags of the American Indians, are but rarely met with in the warmer portions of the continent. His canoes serve only to carry him across narrow creeks or inlets of the sea. And these, with spears and fish-hooks, stone hatchets, a kind of shield, and a carved wooden missile, which, when thrown by a skilful hand, rises with a rotatory motion in the air, striking at a considerable distance, and rebounding to near the thrower, form the sum total of his instruments of production, defence, and aggression. The subsistence of the Australians is alike scanty and filthy, consisting of the flesh of wild animals, shell and other fish, worms and other reptiles, ants and ant eggs, wild-honey, roots and berries. And the supply of wild animals and of edible plants being limited in the extreme, and apt occasionally to suffer greatly from droughts, they seldom have a sufficiency of food, and whole tribes sometimes become the victims of famine. The treatment of females in Australia is in the last degree brutal. Wives are not courted or purchased, but are seized upon, stupified by blows, and then carried off to be the slaves of their unfeeling masters; and should a mother die with a child at the breast, it is usual to bury the latter alive with its dead parent! (Collins' N. S. Wales, App. p. 601.) They are in so far acquainted with the right of property, that each tribe claims the exclusive possession, for hunting purposes, of the territory which it occupies. They seem, also, to believe in the existence of good and evil spirits; but they have no feeling of gratitude towards the former, though they endeavour by superstitious observances to avert the wrath of the latter. In short, this race, the last and lowest of the human species, appears to be as barbarous as can well be imagined; and in this state it has hitherto existed, without apparently possessing either the power or the wish to make the first step in civilisation. Hence it has been concluded, that the Australians are incapable of civilisation; and that they are essentially, and not accidentally, inferior even to the lowest type of the negro. But, degraded as they are, this inference has been denied, at least to its full extent.

Nature, it is said, has been singularly unkind to the Australian, not in his conformation only, but in the circumstances under which he has been placed. The fertile spots fitted for the supply of his limited wants are separated by deserts as wild and inhospitable as the sands of Arabia; and to pass these, he had not, like the Arab, the assistance of patient, strong, and faithful servants of the brute creation. Few navigable rivers flow through his strangely constituted land; and thus communication, the great refiner and improver of mankind, was rendered difficult and of rare occurrence. His soil was destitute of those plants, which, though 'eaten in the sweat of his brow,' are at once the incentives to and the reward of man's labour; nor did it feed a single animal like those which, in more favoured regions, have formed from time immemorial the shepherd's occupation

and wealth. The Australian being thus shut out from the two grand primitive employments, his life could be neither pastoral nor agricultural. Under less adverse circumstances, the red man continued a hunter in the greater part of America, during the ages that preceded his discovery by the Europeans. And even this resource was all but denied to the Australian; the animals around him being not only inferior in kind, but also remarkably few in number. It is farther said, that even the excitement of danger, which may be supposed to have roused the African to exertion, by making his life a constant struggle with the fierce and powerful tenants of the woods, was wanting here; for in Australia there was nothing dangerous, except some noxious reptiles, which do not, however, appear to have any very fatal powers. The Australian had nothing but hunger to contend with; and this he endeavoured, as already seen, to appease by picking up the spontaneous products of his ungrateful soil, and the shell-fish found on the sea-shore, with insects and reptiles; to which he occasionally added a kangaroo or bird, overtaken or destroyed by accident. And Mitchell mentions, that such is the scarcity of the latter kind of food, that young men are forbidden to eat it. (ii. 340.) The surmise of Cook, that it was impossible for the inland country to subsist inhabitants at all seasons (Hawkesworth, iii. 631), was found by Sturt to be fatally verified in the dry year of 1828. (i. 137.)

But the adverse circumstances now alluded to, do not, as some suppose, fully account for the barbarous condition of the aborigines of Australia. The stupidity of his nature, and the inertness of his faculties, are evinced by his having made few or no efforts to increase his supply of food, or to obviate those incessantly recurring attacks of famine to which he has always been exposed. His want of other things should have made him an expert hunter and fisher of such animals as are native to his country and its seas: but he is neither the one nor the other; and though it be perhaps going too far to say that the Australian is incapable of civilisation, the fair presumption seems to be, that he is destined to remain for ever at the bottom of the social scale; and to be inferior in point of comfort, as he has hitherto hardly been superior in contrivance, to many of the lower animals.

It has been supposed, apparently with much probability, that the increase of wild cattle will materially improve both the comforts and the character of the natives; but at present it is not possible to imagine a closer approximation to the least intelligent of the brutes, than the Australians. And yet this barbarous and degraded race has had its admirers. According to Count Strzelecki, the Australian would seem to have attained to the summit of human felicity, and he appears to regret that the immigration of Europeans 'should have disturbed his happy economy.' (p. 343.) To comment on such a statement, would be about as absurd as the statement itself. It would be a libel on Providence, to suppose that it was intended that this extensive portion of the earth should be for ever occupied by a handful of naked savages, without arts, science, industry, or civilisation of any kind. Some of the Europeans who have visited Australia, have not certainly been very favourable specimens of civilised man. But despite their crimes and their vices, they carried with them science, talent, and enterprise, with the germs and the capability of rapid and unlimited improvement; and we are bold to say, that the least and worst of the settlements founded in this vast continent, has a thousand times more

of all that dignifies, exalts, and adorns humanity, than ever was possessed by its entire aboriginal population.

History and Discovery.—Some accidental discoveries were made by the Spaniards as early as 1526; but the first accurate knowledge that was gained in Europe of these S. lands, was by the voyage of the Dutch yacht *Duyfhen*, which, in 1605, explored a part of the coasts of New Guinea. In the following year, Torres, a Spaniard, having passed through the straits, which bear his name, between that island and continental Australia, gave the first account of the N. part of the latter. The Dutch continued to be the chief discoverers for the next forty years, chiefly from their possessions in the E. Indies; and between the years 1642 and 1644, Tasman completed the discovery of a large portion of the Australian coast, together with part of the island of Van Diemen's Land, now pretty generally, and we think properly, called *Tasmania*. During the period referred to, the Dutch navigators succeeded in surveying about half the continental coast line; and the names bestowed upon various parts of the land, as Carpentaria, De Wit's Land, Arnheim's Land, Endiaht's Land, Nuyt's Land, Leuwen's Land, Edel's Land, &c., commemorate the names either of the discoverers themselves, or of the ships in which they sailed. It was late before the English entered on the career of discovery: but once entered, they prosecuted it with vigour. Dampier, between 1684 and 1690, explored a part of the W. and NW. coasts; and in the remaining part of the 17th century, completed this survey, gave his name to the archipelago lying E. of N. W. Cape, and pushed his enquiries to the islands of New Guinea, New Britain, and New Ireland; the straits between the first two being called by his name. The account which Dampier gives of the native inhabitants of Australia, being graphical, and, in most respects, accurate, will be read with interest. 'The inhabitants of this country,' says he, 'are the miserablest people in the world. The *Hodmadods* of *Monomotapa*, though a nasty people, yet for wealth are gentlemen to these; who have no houses and skin garments, sheep, poultry, and fruits of the earth, ostrich-eggs, &c., as the *Hodmadods* have; and setting aside their human shape, they differ but little from brutes. They are tall, straight-bodied, and thin, with small long limbs. They have great heads, round foreheads, and great brows. The eyelids are always half closed, to keep the flies out of their eyes. . . . They have great bottle noses, pretty full lips, and wide mouths. The two fore-teeth of their upper jaw are wanting in all of them, men and women, old and young; whether they draw them out I know not; neither have they any beards. They are long-visaged, and of a very unpleasant aspect, having no one graceful feature in their faces. Their hair is black, short, and curled, like that of the negroes, and not long and lank, like that of the common Indians. The colour of their skins, both of their faces and the rest of their body, is coal black, like that of the negroes of Guinea. They have no sort of clothes, but a piece of the rind of a tree tied like a girdle about their waists, and a handful of long grass, or three or four small green boughs full of leaves, thrust underneath their girdle to cover their nakedness. They have no houses, but lie in the open air without any covering, the earth being their bed, and the heaven their canopy.' (Dampier's *Voyages*, ii. 464, ed. 1729.) Between 1763 and 1766, Wallis and Carteret followed in the track of Dampier, and added to his discoveries those of New Hanover and other islands. These were followed by Cook, who in 1770 discovered

and traced the whole E. coast of continental Australia, from Cape Howe at its S. to Cape Yorke at its N. extremity. In the same voyage this great navigator discovered the island of New Caledonia, and did more, in fact, for Australian discovery, than had been done by all the navigators by whom he had been preceded. In this brief notice the name of Bligh should not be forgotten, who, after the mutiny of the *Bounty*, in 1789, though in an open boat, and devoid of almost every necessary, carried on a series of observations on the N.E. coast, which added considerably to the general stock of knowledge. A colony having been established at Sydney in the previous year, internal and coasting expeditions were simultaneously set on foot for exploring the new land which had become the residence of Englishmen. It may be observed that, previously to this, France entered on the task of southern discovery, but with no great success; Navigators' Islands, and the *Louisiades*, explored by Bougainville, between 1768 and 1770, being the most important additions her officers had then made to the maps of this division of the world. Edwards, in 1791, Bligh (second time), Portlock, in 1792, and Bampton and Alt, in 1793, nearly completed the knowledge of Torres' Straits and a great part of the N. coast; but the greatest discoverers, towards the end of last century, were Bass and Flinders, who surveyed a great extent of coast, mostly in open boats. In 1798 they sailed through the strait between Tasmania, or Van Diemen's Land, and the continent. In the last year of the 18th century, Grant explored a portion of the S. coast, which bears his name; and, in the five following years, Flinders completed a survey of the S. and E. coasts, and of the Gulf of Carpentaria, which may be regarded as nearly perfect. In the same years, Baudin's expedition was employed on the same coast and Van Diemen's Land, the French and English commanders having met in Encounter Bay, so named in consequence of that event. Captains King, Stokes, and Fitzroy surveyed the coasts in 1821-2; Major Mitchell (afterwards Sir Thomas) followed in 1835-6; Lieutenants Grey and Lushington examined Western Australia in 1837-40; Captains Wickham and Fitzroy made extensive surveys from 1837 to 1843; and Sir Thomas Mitchell made another expedition to the N. coast and the shores of the Gulf of Carpentaria in 1844-5. The subsequent surveys and explorations were chiefly inland, and have been already noticed.

Extent and Population.—According to official returns of the year 1864, the area and population of Australasia, at that period, was as follows:—

States	Eng. sq. miles	Population
New South Wales . . .	323,487	367,495
Victoria . . .	86,881	573,841
South Australia . . .	383,338	135,329
Western Australia . . .	978,000	17,246
Tasmania . . .	26,215	90,728
New Zealand . . .	106,269	106,315
Queensland . . .	678,000	45,077
Total for Australasia .	2,582,070	1,326,131

The native population, in 1864, was very small in numbers, and fast dying out. The white population, on the other hand, is rapidly increasing.

British Settlements in Australasia.—The oldest of British colonies was founded in 1788 at Sydney, on the E. coast of Australia, in the vast tract discovered by Captain Cook, and known by the name of New South Wales. The island of Tasmania, or Van Diemen's Land, was next occupied, but not

till 1808. And at still later periods we established the colonies of Victoria and South Australia, on the S. coast of the continent, and Swan River on its W. shores. We have also numerous settlements in New Zealand.

The colonies in N. S. Wales and Van Diemen's Land were originally intended principally for penal settlements; and their progress was, in consequence, retarded by the vicious character of the population, and by the comparative scarcity of females. But despite these adverse circumstances, they have continued rapidly to increase in wealth and population. This has been principally a consequence of the suitableness of the country to the growth of sheep, and of the unprecedented increase in the exports of wool; but it is also owing, though to a less extent, to the discovery of gold.

Emigration to the Australian colonies holds out various advantages to the industrious and enterprising emigrant; though it must at the same time be stated that these are, partially at least, counterbalanced by certain disadvantages. Amongst the former may be mentioned the fact of there being, almost invariably, a pretty brisk demand for additional labour; wages, previously to the gold discoveries, though not extravagant, were high; provisions, except in seasons of drought, which do not often occur, are abundant and reasonable in price; and, above all, the climate is mild, healthy, and well suited to European constitutions, and the country is remarkably free from all varieties of dangerous and offensive animals. The principal drawbacks are, the immense distance from Europe, and the consequent cost of the voyage, with the general inferiority of the land.

Among the other drawbacks incident to emigration thither may be mentioned the fact, that conveyances of land by one individual to another are framed in all the Australian states, except South Australia, on the model of those of England. Apart from the extraordinary attraction of the gold-fields, the greater mildness and salubrity of the climate is the principal, or rather, perhaps, the only, recommendation in favour of emigrating to Australia rather than to Canada or the United States.

Commercial Intercourse with Great Britain.—The imports of Australian products into Great Britain made a very decided progress during the ten years from 1854 to 1864. Thus in 1855 they were valued at 4,500,200*l.*; in 1856 at 5,736,043*l.*; in 1857 at 5,925,305*l.*; in 1858 at 5,291,287*l.*; in 1859 at 5,534,641*l.*; in 1860 at 6,469,243*l.*; in 1861 at 6,901,487*l.*; in 1862 at 7,109,809*l.*; in 1863 at 7,160,662*l.*; and in 1864 at 10,089,329*l.* The exports from the Australias made a great stride in the year 1864, every settlement participating in the advance. Thus the value of the exports from Western Australia in 1864 was 71,408*l.*, against 60,681*l.* in 1863; from South Australia, 1,203,131*l.*, against 1,097,795*l.* in 1863; from Victoria, 4,043,813*l.*, against 2,681,239*l.*; from New South Wales, 2,809,915*l.*, against 1,966,948*l.* in 1863; from Queensland, 844,362*l.*, against 258,201*l.* in 1863; from Tasmania, 464,295*l.*, against 360,405*l.* in 1863; and from New Zealand, 1,102,407*l.*, against 740,397*l.* in 1863. Thirty years before—in 1835—the exports from the Australias were valued at less than 1,000,000*l.* per annum; while in 1864 they exceeded 10,000,000*l.* annually; and yet the work of Australian colonization has little more than commenced at present.

Form of Government.—The form in which the legislative and executive authority is exercised differs, to some extent, in the various states of Australasia, though the main features are the same.

The first charter for the Australasian colonies was issued in 1851, by the British act of the previous year, the 13 & 14 Vict. c. 59, combined with the 5 & 6 Vict. c. 78. The executive power was then vested in an executive council, usually consisting of the governor, the commander of the troops, the colonial secretary, the attorney and solicitor general, and one or two more functionaries. The legislative councils, in which the legislative power was vested, consisted of members partly elected and partly nominated by the Crown. The elected members represented counties, cities, and districts; the right of election being given to natural born or naturalised male subjects of the Crown having freehold estates of the nett value of 100*l.*, or leasehold estates of the annual value of 10*l.*, or occupying houses of the annual value of 10*l.*, or holding licenses to depasture lands. Provision was made for varying the limits of electoral districts, and for increasing their number and the number of elected members; but with and under the condition that when two such members were added, another member might be named by her Majesty, so that one third part of the additional members always consisted of nominees. The governors and legislative councils were empowered to make laws, provided they be not repugnant to the law of England, or interfered with the rights of the Crown to the lands belonging to it within the colonies, or to the revenue accruing from the same.

These arrangements, which had obviously been formed on the model of the English constitution, underwent subsequent alterations, in a democratic sense, in several of the more flourishing states of Australasia. An account of the constitutional form of each government must therefore be left to fall in with the more detailed sketch of the seven states into which the commonwealth at the British antipodes is divided. (See 'Australia, South,' 'Australia, Western,' 'New South Wales,' 'Queensland,' and 'Victoria,' following this article, as forming a portion of the great continent of Australia; and 'Van Diemen's Land,' recently called Tasmania, and 'Zealand, New,' given in separate articles, as not belonging to Australia Proper, but to Australasia.)

AUSTRALIA.—The continental part of Australasia is divided into five different states, namely, South Australia, Western Australia, New South Wales, Queensland, and Victoria. We treat these, adopting the plan laid down in the first edition of this work, in the following order:—

1. Australia (South);
2. Australia (Western);
3. Queensland;
4. New South Wales;
5. Victoria.

I. AUSTRALIA (SOUTH), the name given to that portion of the great Australian continent comprised between the 132nd and 141st degs. of E. long., and extending from the sea N. to lat. 26° S., having E. the region watered by the Murray and its tributaries, and the colony of Victoria. Area, according to the returns of the colonial government, 883,328 Engl. sq. miles. Pop. 135,329, in 1862, of whom 69,608 males, and 65,721 females. South Australia was first colonised in 1836 by emigrants from Great Britain, sent out under the auspices of a company called the South Australian Colonisation Association, which in 1835 obtained a grant from the Imperial Government of the lands of this colony. The conditions were that the land should not be sold at less than 1*l.* per acre; that the revenue arising from the sale of such lands should be appropriated to the emigration of agricultural labourers; that the control of the company's affairs should be vested in a body of commis-

sioners approved by the secretary of state for the colonies, and that the governor of the colony should be nominated by the Crown.

The colony is bounded on the north by Central North Australia, and on the south by the ocean. It is 894 m. in length along the eastern boundary, and 417 along the western boundary, and 589 in breadth.

The coast of S. Australia is more indented than that of any other part of the continent: Spencer's Gulf, which stretches inwards in a N.N.E. direction for about 200 m., is separated from St. Vincent's Gulf, lying more to the E. by Yorke peninsula. Opposite the latter and the Gulf of St. Vincent is Kangaroo Island, about 100 m. in length from W. to E., and 35 m. in its greatest breadth. This island, which is said to contain several fertile, grassy, and well-wooded tracts, has on its N. side the harbour of Nepean and the settlement of Kingscote; but hitherto few portions of it have been occupied. Most part of the settled land in the colony lies on the E. side of the Gulf of St. Vincent, in which direction, also, is the greater portion of the explored territory. Several parallel mountain or hill ranges traverse this part of the country from S. to N., but none of them is of any great elevation: Mt. Bryant, apparently the highest peak, reaching to only 3,012 ft. above the sea. The surface is mostly undulating and abounds in 'park-like scenery,' interspersed with scattered woods or scrub. The hills are moderately steep, and their sides covered with forests of gum-trees (*eucalypti*), casuarinas or she-oak, pines, various kinds of acacias, &c., or with a sward affording extensive pasturage; but their summits are uniformly bare, and exhibit formations of granite, gneiss, mica, quartz, clay-slate, sandstone, and many varieties of limestone. Some of these rocks have been found to contain prolific veins of valuable minerals; and mining has, in consequence, become a very important branch of industry. South Australia has no great river, except the Murray, which, however, as already seen, is of the highest importance. Unluckily the entrance to it is obstructed by a bar, which prevents the access of any but small vessels from the sea into Lake Alexandrina at its mouth. But a tram-road, that will probably be replaced by a canal, has been already constructed from where the Murray ceases to be navigable to Port Elliott, on the N.E. coast of Encounter Bay, lat. 35° 32' 45" S., long. 138° 43' 15" E.; and the navigation and trade of which the Murray is no doubt destined to be the channel, will eventually render this an important entrepôt. In addition to Lake Alexandrina and that of Albert connected with it, this territory comprises the large and mostly unexplored Lake Torrens, and a great number of ponds and creeks. It is also watered by numerous small rivers, along the banks of which there is commonly a rich alluvial soil: one of these, the Torrens, on which Adelaide, the cap. of the colony, is situated, loses itself in a marsh before reaching the sea. It is stated that where water is not abundant on the surface, it may generally be obtained by sinking wells from 20 to 100 ft. in depth. Between May and October, S.W. winds chiefly prevail, and are accompanied by showers: these are, however, less heavy than in W. Australia or Van Diemen's Land, and the mean annual fall of rain at Adelaide, during the five years ending with 1843, was found to be only 19·9 inches, being considerably less than in either New South Wales or Phillipsland; but evaporation is much less rapid than in the former of these regions. The annual temperature is a good deal higher than in England, and more analogous to that of some parts of Italy. The thermometer ranges from

about 37° to 115° Fahr., and ice as thick as a shilling is rare in the winter months. In summer, that is, in January, February, and March, a hot and oppressive wind occasionally sets in from the N., which, however, is soon followed by a cool breeze from the S. It is said that no drought has occurred in the colony since its settlement. The atmosphere is, in general, remarkably clear and salubrious. Mr. Wilkinson states, that with emigrants establishing themselves in the country, 'a house to live in is a secondary consideration on account of the healthiness and geniality of the air and climate, which enables persons to do things there that would consign them to a bed of sickness in England. Thus it is common to sleep for nights together in the open air, without any injury to health; and on first entering on a country life, a tent or such-like slight covering is considered amply sufficient for all wants till the emigrant has ploughed, sown, and fenced his land.' (S. Australia, p. 62.) Storms sometimes occur, and earthquakes have been felt, but the latter have not been productive of damage. Dysentery and influenza are the only epidemic diseases, and the former is said to have become rarer than at the first settlement of the colony. Ophthalmia appears to be less frequent than on the E. side of the continent; Mr. Wilkinson says it is produced by a small fly, which at certain seasons infests the country.

It has been stated that of the country E. of St. Vincent's Gulf about a third part is adapted for agriculture or grazing, that another third is covered with scrub or forest, and that the remaining third is barren.

The most extensive grazing tracts lie N. of Adelaide: in that direction is a good deal of level land, watered by the Gawler, Broughton, Wakefield, and other rivers, which terminate about 100 m. from the capital in a chain of grassy downs. E. and S. of Adelaide the country is more broken, but there are many fertile valleys, and the hill slopes are well adapted for pasture. Along the shores of Lake Alexandrina and the banks of the Murray, for 100 m. from the lake, are some good sheep and cattle runs, with strips of rich alluvial land. Many valuable tracts border the coast from Encounter Bay to the Glenelg river on the frontier of Phillipsland. Yorke and Eyre peninsulas, on either side of Spencer's Gulf, appear to be much less fertile than the other explored portions of the colony: the latter has the harbour of Port Lincoln, and some good grazing tracts, but the greater part of it is said by Mr. Eyre to be 'barren, arid, and worthless.' Its table land is generally about 1,300 ft. in elevation.

The land in S. Australia is sold in smaller lots than in N. S. Wales; tracts of various sizes being disposed of at the government quarterly sales, the minimum upset price being here, as elsewhere, fixed at the rate of 1*l.* per acre. From 1835 to 1852 inclusive there were sold 790,077 acres, at an average price of about 1*l.* per acre. During 1862 the area of land sold by the Crown was 129,910 acres, which realised 152,659*l.*, against 147,355 acres, and for which 189,015*l.* was paid into the Treasury in 1861. From 1835 to the close of 1862 the total extent of land alienated from the Crown was 2,510,315 acres, or upwards of 4,400 sq. m. (giving upwards of 62 acres to each male over fourteen years of age), which realised 3,150,216*l.* (Report of Governor Sir D. Daly, dated Adelaide, Sept. 19, 1862.) Lands are divided into the three classes, of town, suburban, and country lots: the intended sales are notified by proclamation at least three months before sale; and on purchase a deposit of 10 per cent. is required to be paid immediately, and the remainder

within a month. Country lots put up and not bid for may be claimed by a purchaser without competition; and persons may apply for 20,000 acres without competition, the price, however, not to be less than the minimum of 20s. an acre. The deeds of purchase contain a grant of all above and below the soil: the government reserves no right to the minerals that may be discovered, or to make roads across the property; its only claim is to the sea-coast within 100 ft. of high-water mark. A tract of 14,000 sq. m. has been leased for pastoral purposes for fourteen years from the 1st July, 1851, and 1,143 do. under leases annually renewed.

The value of the exports of bread stuffs and grain amounted to 633,241*l.* in 1862. The returns show that 2,105,877 acres of land were enclosed at the end of 1862. The average cost of enclosure, I am informed, may be stated at 70*l.* per mile. The area of land under cultivation was 494,511 acres in 1862, against 486,667 acres in 1861. The main crops cultivated were, wheat, barley, oats, maize, and hay. The wheat crop extended over 320,160 acres in 1862, giving 8,441,824 bushels, or an average produce of 12 bushels to the acre, while it covered 310,636 acres in 1861, yielding 3,410,756 bushels, or an average produce of 10 bushels and 59 lbs. to the acre. The low produce of twelve bushels of wheat per acre is explained in the report of the governor, as follows:— 'The reason for the low average as to quantity per acre is, that a very large extent of very bad land has been ploughed up; land that could scarcely be expected to yield a crop before it had been well worked and manured, and which will not be done while land is so much cheaper than labour. In fact the least possible amount of labour is bestowed upon the land here. It is simply ploughed, sown, and reaped. I know land in the neighbourhood of Gawler that has been cropped every year for the last fourteen years with only one small sprinkling of manure. This slovenly mode of cultivation will easily account for the small produce in the colony.' (Report of Governor Sir D. Daly, Sept. 19, 1862.) Good farm implements are made at Adelaide and elsewhere; and a Mr. Ridley is stated to have benefited the colony, and distinguished it in the annals of art and science by the invention of a machine which reaps, thrashes, and winnows at the same time, at the rate of nearly an acre an hour.

The country produces all the choicest fruits of southern France and Italy, such as vines, olives, mulberries, oranges, lemons, pomegranates, melons, peaches, almonds, figs, &c., with tobacco and hops.

The live stock has greatly increased in the course of twenty-two years. In 1840 there were 959 horses, 16,052 horned cattle, and 166,770 sheep, grazing on the pastoral lands of the colony; at the close of 1862 there were 56,251 horses, 258,342 horned cattle, and 3,431,000 sheep. The total area leased for depasturing purposes was 36,901 sq. m., besides an area of 25,571 sq. m. applied for but not yet leased.

Commensurate with the vast increase of live stock has been the produce of the wool staple, the total export of which amounted at the end of 1862 to 13,229,009 lbs., representing a money value of 635,270*l.*

Wild dogs, which are the great pest of the colony, sometimes prove very destructive to the sheep; but their numbers are rapidly diminishing. The S. Australian Company are the largest sheep proprietors: several other proprietors own from 10,000 to 16,000, and flocks of from 4,000 to 5,000 are common. Of late years some large sheep-runs have been leased around Rivoli Bay and other

parts of the S. E. coast, and beyond Port Lincoln in the W.

The breeding of cattle and horses is not pursued on nearly so extensive a scale as in New South Wales or Victoria. The breeds were originally imported from the Cape of Good Hope and Van Diemen's Land. Bullocks are mostly used for agricultural labour. Before the introduction of farm stock into the colony, the flesh of the kangaroo and emu formed the principal food of the settlers: at present these animals, from the wholesale destruction to which they have been subjected, are seldom met with in the vicinity of the settlements.

In the year 1843, a sudden impetus was given to the enterprise of the colonists by the discovery of valuable metallic ores in different parts of the country. Such was the influence of this discovery on the sale of land, that whereas in 1843 the government sold only 698 acres, in 1844 it sold 3,428; in 1845, 69,658; and in 1846, 31,301 acres, realising as much as 75,715*l.* to the colonial treasury.

Lead and copper are the principal metals. The former is most abundant E. and S. E. from Adelaide (in the Glen Osmond, Wheal Gawler, Wheal Watkins, &c. mines), at Mt. Beever, and at Gattagolingo, close on the coast near Cape Jervis. Copper is raised in numerous localities in the hill chain between the region of the Murray and the Gulfs; also in a plain 15 m. S. of Adelaide, at Gattagolingo, at the head of St. Vincent's Gulf, and W. of Port Lincoln. The ores are met with near the surface of the ground, and some of them are extremely rich.

Mineral produce has been shipped from South Australia during the ten years 1853-62, of the value of 3,524,641*l.* During the first half of that period 1,294,013*l.* and 2,230,628*l.*, or nearly double the amount, during the latter. In 1862 the exports reached to 547,619*l.*, greater than in any preceding year, and 95,447*l.* more than in that previous.

The following table gives the quantities of mineral produce exported in quinquennial periods, with the average yearly shipments:—

Periods	Copper	Lead	Copper Ore	Lead Ore	Regulus
	Cwts	Cwts	Tons	Tons	Tons
Total in five years, 1853-57	146,550	34	28,557	1,646	245
Do. 1858-62	316,889	4,787	35,133	1,295	1,441
Average of five years, 1853-57	29,310	7	5,711	329	49
Do. 1858-62	63,378	953	7,026	269	288

In 1862, 85,872 cwt. of fine copper were shipped against 61,047 cwt. in 1861. Of the former, 26,005 cwt. were sent to Great Britain; 31,882 cwt. to Melbourne, for transshipment; and 28,145 cwt. to India. The greater part of the ore being now smelted in the colony, the export of the crude mineral in 1862 was only 6,216 tons, against 7,817 tons the year before. This quantity went forward to England direct and by way of Melbourne in about equal proportions. Of lead, only 426 cwt. were shipped in 1862, against 1,256 cwt. in 1861; but an increase appears under the head of lead ore and of regulus; of the latter 418 tons were exported.

There are in Adelaide numerous flour-mills, breweries, malt-houses, machine factories, and brass and iron foundries; with manufactures of barilla, tobacco, soap, candles, leather, and earthenware. The three great articles of export are breadstuffs, wool, and minerals. The subjoined two tables exhibit the total exports at various periods, as well as the per centage in which the staple articles shared in them:—

Period	Total Exports of Produce
In the year 1853	£71,595
" 1857	1,744,184
" 1862	1,920,487
Total in five years, 1853-57	5,255,521
" 1858-62	8,192,658
Average of five years, 1853-57	1,051,104
" 1858-62	1,638,131

Of the Total Shipments	Average, 1851-55	Average, 1856-60	Average, 1858-62
Breadstuffs formed, per cent.	32.3	38.2	35.5
Wool	28.4	31.6	33.4
Minerals	32.9	27.6	27.2
Miscellaneous Products,	6.4	2.6	8.9

The whole trade centres at Port Adelaide; and is at present in great part carried on by shipping belonging to S. Australian colonists. There are no harbour dues, tonnage rates, or other duties on shipping in any of the ports of this colony. Hence they are especially well fitted for the repair and refitting of the ships engaged in the Southern whale fishery.

South Australia possessed, at the end of the year 1862, macadamized roads of the length of 236 m., all of them in an excellent state. There were also 57 m. of railway, which, in the course of the year 1862, carried 306,140 passengers, and 187,762 tons of goods. The introduction of the railway system dates from the year 1856, when the first 7 m. were opened.

The revenue and expenditure of the state in the six years 1858-63, was as follows:—

Years	Revenue	Expenditure
	£	£
1858	601,500	648,025
1859	639,683	620,756
1860	504,045	492,656
1861	558,588	482,951
1862	659,870	615,114
1863	631,700	635,205

The public debt, at the end of 1862, amounted to 870,100*l.*, at a rate of interest of six per cent.

The constitution of South Australia bears date October 27, 1856. It vests the legislative power in a Parliament elected by the people. The Parliament consists of a Legislative Council and a House of Assembly. The former is composed of eighteen members, six of whom retire every four years, their successors being then elected for twelve years. The executive has no power to dissolve this body. It is elected by the whole colony voting as one district. The qualification of an elector to the Legislative Council is as follows:—He must be twenty-one years of age, a natural-born or naturalised subject of her Majesty, and have been on the electoral roll six months, besides having a freehold of 50*l.* value, or a leasehold of 20*l.* annual value, or occupying a dwelling-house of 25*l.* annual value. The qualification for a member of council is merely that he must be thirty years of age, a natural-born or naturalised subject, and a resident in the province for three years. The president of the council is elected by the members.

The house of assembly consists of thirty-six members, elected for three years by seventeen districts, but liable to dissolution by the executive. The sole qualification for an elector is that of having been on the electoral roll for six months,

and of having arrived at twenty-one years of age; and the qualification for a member is the same. The speaker is elected for the Parliament by the members of a new House on its first meeting. Judges and ministers of religion are ineligible for election as members, as well as aliens who have not resided five years in the colony. The elections of members of both houses are conducted by ballot.

The executive is vested in a governor appointed by the Crown and a responsible Executive Council, the members of which must have been elected deputies of either of the two Houses of Parliament.

South Australia was erected into a colony by an act of the British Parliament in 1834, when it was provided that no convicts should at any period be transported to it from the mother country or elsewhere by the British Government.

II. AUSTRALIA (WESTERN) so called from its being situated on the W. side of the continent, is understood, in its most extensive acceptance, to comprise the portion of Australia W. of the 120th deg. of E. long.; but in a more limited sense the term is applied to what was formerly known as the 'Swan-river colony,' lying between the 32nd and 35th degs. of S. lat., and the 115th and 119th degs. of E. long., comprising the SW. portion of the continent, its W. and S. coasts being washed by the Indian Ocean. The area of the state embraces 978,000 Engl. sq. m., with a white population, in 1862, of 17,246. The occupied region is about 300 m. in length from N. to S., by 150 m. in average breadth. The aborigines are estimated at from 4,000 to 5,000.

Three parallel mountain or hill ranges run from N. to S. through this colony, progressively increasing in height from the W. coast to the interior; the culminating summit near King George's Sound is about 3,500 ft. above the sea. The Swan River, with its main stream the Avon, makes its way through these ranges, and after receiving the Helena and Canning widens into an estuary, which unites with the ocean in lat. 32°, opposite Rottnest Islands. The town of Fremantle is at its mouth, and Perth, the cap. of the colony, about 12 m. farther up. The other princip. riva. are the Murray, Preston, Blackwood, Denmark, and Raleigh, all to the S. of the Swan River, but none of them is of any very considerable magnitude. The inlets of the sea are numerous: principal, Cockburn Sound, Peel Inlet, and the bay *du Geographe* on the W., with Flinders' Bay and King George's Sound on the S. Cockburn Sound, though its entrance is unluckily impeded by rocks, forms a sheltered and secure harbour; and on its shore, where there is deep water, the foundation has been laid of the new town of Rockingham. The mouth of the Swan River is the next most eligible harbour on the W. coast. There are also anchorages at Peel's Inlet, Port Leschenault, Augusta, &c., and in Shark's and Doubtful Island bays beyond the limits of the settled territory. King George's Sound has all the qualities of a good harbour, except that it is often difficult to leave it, owing to the prevalence of strong westerly gales. All round the coasts are numerous petty inlets, lagoons, and lakes; and salt-pools and marshes are scattered over the interior. Much of the surface is, notwithstanding, but indifferently watered. From April to July a good deal of rain is brought by W. winds to the territory bordering the sea: the quantity falling at King George's Sound during the winter months being about equal to the fall on the W. coast of England; but the country 100 m. inland is much less abundantly supplied with moisture, and in the hot season, between November and April, droughts are common. The climate is favourable to the con-

stitution of Europeans: though in summer the days are hot, the nights are invariably cool. Dysentery of a mild character, and ophthalmia, are the principal diseases which affect Europeans. Granite, gneiss, and red sandstone, intermixed with clay, and roofing-slate, and limestone, are the prevalent geological rocks; along the Bay du Geographe basalt is abundant; and in one locality there is a columnar basaltic formation similar to the Giant's Causeway. There appears to be a decidedly greater breadth of bad and inferior land in this than in the other Australian colonies, though with manure good crops may be produced. The weight of the wheat has sometimes exceeded 70 lb. per bushel, and its quality generally has been as good as that of S. Australia. Soil upon which sheep have been folded produces at an average about 20 bushels an acre, but the yield might be increased.

The herbage, except in the best watered districts, is scanty, and at a medium five or six acres are required for a single sheep. The stock of the latter is now, however, rapidly increasing. In 1851 the exports of wool amounted to 356,153 lbs. of the estimated value of 16,768*l.* 7*s.* 8*d.* The quality of the wool is similar to that from the sister colonies; but owing to its being at first sent over in bad condition, it brought a less price. It constitutes the main article of export, and is susceptible of an indefinite increase. (Southey on Colonial Wools, p. 81.) Sandal wood promises to form a valuable article of export, being sent to Singapore and China. There is likewise an available supply of ship-building timber, which grows quite close to the sea: it is analogous to Honduras mahogany, is of large size, resists the sea-worm, and is not apt to split or warp, while at the same time it is more easily worked than any other wood in Australia. It has been used in the colony for building small vessels, and also for rafters, &c., in houses. A shipload was recently supplied at the dockyard at Chatham, and was highly approved of. The vine, the fig, and the olive are beginning to be cultivated. Zante currants thrive as well as the grape, but none have been produced for exportation. Wine has been made for consumption in the colony, and projects are entertained for procuring a supply of German vine-dressers. In 1852 the value of the imports amounted to 97,304*l.*, whereof those from Great Britain amounted to 65,447*l.*: the value of the exports in the same year amounted to 16,571*l.*, wool (except trifling quantities of timber, whale-oil, and whalebone) being almost the only article.

Coal of good quality has been traced in veins of considerable thickness over a large surface, and it has been stated, within four or five miles of the coast. At present the cost of bringing it down for embarkation, in consequence of the high price of labour, exceeds the cost of English coal; but were smelting works established near the pits, the reduction of the ores of S. Australia might, perhaps, prove a profitable business, no coal having hitherto been found in that colony. Iron ore of excellent quality is met with in large quantities, as is also zinc; and traces of copper, lead, quicksilver, &c., have been found, though no mines of these metals have been opened. A trade in gums is commencing, their collection being entrusted to the aborigines, who dispose of them to the Europeans at the various settlements. A species of *Phormium tenax*, or tough flax, is stated to be amongst the indigenous plants which might be turned to account.

The total value of the imports and exports of Western Australia, in the six years from 1856 to 1862, is shown in the subjoined statement:—

Years	Imports	Exports
	£	£
1856	122,938	44,740
1857	94,532	59,947
1859	125,315	93,037
1860	169,074	89,246
1861	147,912	95,789
1862	140,003	111,754

The exports of the colony, very small in amount, consist almost entirely of wool and timber, the former being of the average value of 60,000*l.* annually. The soil is believed to be rich in mineral ore, principally copper; but as yet mining has not proved remunerative in Western Australia.

The first settlements in this territory were established on Swan River in 1828; and on the formation of the colony very large grants of lands were made to individuals, to which cause its comparative want of progress may be, in part at least, attributed. One settler had a block of 250,000 acres, and there were other grants of a similar nature, so that not less than 1,500,000 acres had been appropriated previously to 1841. Labour is scarce, and wages high. The community being small, they would not be able, from want of capital, suddenly to receive and employ any great number of immigrants; but it is supposed that from 1,500 to 1,600 labourers annually might be provided for with as much advantage as in any other colony.

For years past, immigration into the colony has been confined to the persons sent out by the British Government—paupers and criminals. During the ten years, from Dec. 31, 1854, to Dec. 31, 1863, there were introduced to Western Australia:—

Convicts	4,800
Government immigrants, prisoners' families, pensioners, &c.	4,850
Total	9,650

On the other hand, there left in the same period—

Free emigrants, ex-pi-ees, &c.	4,791
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It thus appears that but one-half of the convicts and immigrants remain in the colony. The criminal statistics of this convict population appear to be, however, not altogether unfavourable. With a population of some 8,000 adult males, where the bond class, including ex-pi-ees, outnumber the free, there were only 26 cases of crime during 1862, of such importance as to be tried before the Supreme Court. Of these cases 22 were of the convict class, and the majority of the crimes for which they were tried were not of a very serious nature, not one case of murder being among them.

Owing to the extensive grants originally made, land may be obtained at a low price in this colony. In 1844, a million acres might have been purchased at 3*s.* an acre. Owing to this low price, the sale of land in the colony, in proportion to the number of its inhabitants, is very great. 12,000 acres were sold in 1862, a larger amount in the two preceding years, and with a population of 17,000 persons, the majority of whom hold little or no land; nearly one and a half million acres of land have been alienated in fee, and seven millions of acres are held under lease. (Report of Governor Hampton, dated Feb. 20, 1863.)

The public revenue of Western Australia, in the year 1862, amounted to 69,406*l.*, and the expenditure to 72,267*l.* The government is administered by a lieutenant-governor appointed by the Crown, who is assisted by an Executive Council composed of certain office-holders, namely, the senior officer in

command of the forces, the colonial secretary, the comptroller-general of convicts, the surveyor-general, the attorney-general, and the treasurer and collector of internal revenue. There is also a Legislative Council, composed, including the governor, of six official and four unofficial members. The official members are the governor, the commander of the forces, the colonial secretary, the surveyor-general, the attorney-general, and the treasurer and collector of internal revenue. The unofficial members are appointed by the Crown, on the recommendation of the governor.

III. QUEENSLAND, the formerly northern province of New South Wales, erected into an independent colony in 1859. It embraces the immense district extending along the E. coast of Australia, between the tropic of Capricorn ($23\frac{1}{2}^{\circ}$) and the 80th deg. S. lat. But the occupied portion of the territory extends only between the 26th and 80th degrees. The colony comprises the whole north-eastern portion of the Australian continent. It also includes, in the terms of her majesty's letters patent, 'all and every the adjacent islands, their members and appurtenances, in the Pacific Ocean and in the Gulf of Carpentaria.'

It appears from the statistical register of Queensland for 1861, that the surveyor-general has made a careful calculation of the present area of the colony; and the result is, in round numbers, as follows:—

AREA OF QUEENSLAND.		Square miles
East of longitude 141°	.	560,000
Between 141° and 138°	.	118,600
Total	.	678,600

OCCUPIED COUNTRY.		Square miles
Approximate area of country occupied by pastoral stations	.	195,000

The vast territory thus defined formed a part of New South Wales until it was erected into a separate colony, under the name of Queensland, by an order of her majesty in council, which took effect on December 10, 1859, upon the arrival of the first governor, Sir G. F. Bowen.

The population amounted to 24,870 on December 31, 1859; to 29,074 on December 31, 1860; to 34,367 at the same date in 1861; and to 45,077 on December 31, 1862. The increase of population in the year 1862 by immigration from Europe amounted to 8,080—namely, 4,703 males and 3,377 females; and the increase by immigration from other colonies was 1,725—namely, 1,285 males and 440 females. At the end of 1862, the population contained three males for every two females; but it is remarkable that in the course of the year 1862, though the male births were 110, to every 100 females born, the excess of births over deaths gave but 387 males and as many as 518 females. The total increase by immigration in the year 1862, from all parts, was 9,805; and the population on December 31, 1862, was estimated at 45,077, of whom 27,186 were males and 17,891 females.

The Australian Andes, a mountain chain mostly from 60 to 70 m. distant from the Pacific Ocean, and separating the affluents of the Darling flowing W. from the riva. flowing E., have a general elevation varying between 3000 and 4000 ft.; but some heights in New England are much more lofty, and Mt. Lindsay, in a spur near Moreton Bay, rises to 5700 ft. above the sea. Immediately on proceeding into the territory from New South Wales, the mountains are seen to assume a peaked and volcanic shape; they are mostly granitic, and

sandstone being less prevalent than in the coast round Sydney, the soil is superior. Moreton Bay, the most remarkable geographical feature, is an inlet of the ocean between the 27th and 28th degs. S. lat., and 153 and $153\frac{1}{2}$ degs. E. long.: it is 50 m. in length from N. to S., 20 m. in width, studded with islets, and sheltered seaward by Moreton and Stradbroke islands. Its shores, which form the co. Stanley, are suited to the culture of both European and tropical products. Proceeding from S. to N., the principal streams flowing E. through the territory are the Clarence, Richmond, Logan, Brisbane, and Widebay riva., all of which are navigable, but, like the streams nearer to the S., they have bars at their mouths. The Clarence, the largest riv. in E. Australia, empties itself into shoal bay, lat. $29^{\circ} 20' S.$ It is stated to be navigable for steamboats of 100 tons burden for 80 m. above its bar, and throughout this part of its course its banks consist of rich alluvial soil, well fitted for agricultural purposes; in the upper part, it waters a fine pastoral region on which many squatters are settled; and near its mouth it encloses a large island. The Richmond, about 45 m. further N., is navigable for 50 m. from the ocean. The country between this riv. and Moreton Bay, a distance of 60 or 70 m., is a continuous forest of pines, some of very large size; and the river Tweed towards its centre is a good deal resorted to for cedar timber by coasting vessels from Sydney. The Brisbane, a large and fine stream, with a very circuitous course, is navigated by steamers for 60 or 80 m. from its mouth in Moreton Bay; on it is Brisbane town, the cap. of Cooksland. Widebay riv. enters the sea at Port Curtis, the N. limit of the explored region. The average temp. at Moreton Bay was found to be about 58° Fah.; in Dec. of the same year it varied from 72° to 80° ; and in June it was about 54° Fah. Nothing can exceed the salubrity of the climate of this region. The traveller, it is said, may sleep in the 'bush' uncovered on the bare ground; and may ford rivers, ride in wet clothes, and expose himself with all but perfect impunity to every variation of temperature. (Hodgkinson's Australia, &c. p. 107.) Owing to the vicinity of the tropic, rains are more abundant and regular than further S.; and the alluvial flats along the sides and near the mouths of the rivers being unusually fertile, the country is better fitted for agriculture than the central region of New South Wales. The crops, also, are less injured by droughts. At present, wheat, salted beef, wool, skins, tallow, and pine timber, are the principal articles of export. According to Mr. Kent, government superintendent at Moreton Bay, the average produce per acre of the agricultural districts between the Clarence and Widebay riv., is of wheat, from 20 to 30 bushels, of maize from 50 to 60 do., of sweet potatoes 30 tons, and of tobacco about 15 cwts. (Lang's Cooksland, p. 238.) Sugar-cane of the Tahitian variety is indigenous. Tobacco, cotton, coffee, indigo, rice, bananas, oranges, melons, pine-apples, arrow-root, flax, millet, guinea-grass, come to perfection; the culture of silk has been successfully attempted, though hitherto not to much extent: the temperature is suited to the vine, but periodical rains occurring when the fruit is ripe, spoil the grapes, so that Cooksland is not likely to become a wine-growing country. Darling Downs, New England, and indeed most parts of the territory, except the alluvial flats, are extremely well adapted to sheep rearing, and a good deal of land is occupied in large runs by squatters. Some squatting stations have been occupied as far N. as the river Boyne, and extensive tracts have been discovered, sup-

posed to be well adapted for sheep, still further N. within the limits of the tropic. (Lang, pp. 182, 183, &c.) Sheep weigh at an average from 70 to 80 lbs. at Moreton Bay, and cattle from 18 to 14 cwt. The Moreton Bay pine (*Aracaria Cunninghamiana*) is confined to the geographical limit of Queensland; it grows to from 100 to 150 ft. in height, and yields excellent timber for masts and spars. The bunya-bunya pine (*A. Bidwellia*), red cedar, iron-bark, blue gum, rose and tulip woods, box, silk, and forest oaks, &c., are noble trees. 'Dr. Leichhart found not fewer than 110 different species of trees, exclusive of parasitical plants and shrubs, in the brush or alluvial flat land of Moreton Bay, and 27 in the open forest, and along only 80 paces of a cattle track at Limestone Plain, near Ipswich, not fewer than 17 different species of grass in seed at the same time.' (Ibid. p. 183.) Honey is becoming an article of commerce. Dyewoods and gums abound in great variety, but they have not yet (or had not at the date of last report) found a place in the markets. Turtle of various sorts, and pearl oysters, are abundant on most parts of the coast. Coal has been met with on both sides of the Australian Andes, but hitherto no mines have been opened.

Most of the productions of both temperate and tropical countries can be cultivated with success in Queensland. The climate is stated to be favourable to pastoral occupations, and to the growth of wool. Experience has shown that extensive districts are also adapted for the growth of cotton. Many writers regard this colony as destined to become the future cotton-field of Great Britain. A bonus is offered by the government of ten acres of land for every bale of Sea Island cotton weighing 800 lbs. However, the registrar-general of Queensland, in his report of June 1863, stated that agriculture had made little progress; the high rate of wages, uncertainty of getting labour, and the difficulty of conveying produce to market over roads always rough and often impassable, having hitherto made it more economical to import almost all kinds of agricultural produce than to grow them. According to an official return of March 1863, the extent of land set aside for the cultivation of cotton at that period was under 100 acres.

The value of the imports and exports of Queensland, in the years 1860, 1861, and 1862, is given in the following table. It shows that, during this triennial period, the imports have nearly doubled, while the exports also have largely increased.

Year	Imports	Exports	Total Imports and Exports
1860	742,023	523,476	1,265,499
1861	967,850	709,598	1,677,548
1862	1,320,225	748,519	2,068,744

The commercial intercourse of Queensland is chiefly with the other Australian colonies, and, next to them, with Great Britain, as shown in the subjoined table:—

	Year	Imports	Exports	Total
		£	£	£
Great Britain	1860	56,730	—	56,730
	1861	90,905	119,515	210,420
	1862	228,591	215,059	443,650
	1860	523,165	161,546	684,711
Australian colonies	1861	874,797	589,683	1,464,481
	1862	1,086,338	527,545	1,613,883

There are several coal mines in the colony, producing about 18,000 tons of coal per annum.

Great gold fields have hitherto not been discovered, though the metal is believed to be existing in large quantities.

The form of government of the colony of Queensland was established December 10, 1859, on its separation from New South Wales. The power of making laws and imposing taxes is vested in a Parliament of two Houses, the Legislative Council and the Legislative Assembly. The former consists of twenty members, nominated by the Crown for life; and the latter of twenty-six deputies, elected by all natural-born or naturalised citizens, who pay taxes, and have undergone no condemnation for any criminal act. The executive is vested in a governor appointed by the Crown.

IV. NEW SOUTH WALES, the earliest settled of the British colonies in Australia, comprises the territory between the tropic of Capricorn on the N. and Cape Howe, in about 37½° S. lat., having a coast line of about 973 m.

The Blue Mountains extend irregularly throughout the whole length of this region, parallel to the coast, at a distance averaging from 80 to 50 m. Their medium elevation varies between 3,000 to 4,000 ft., and their slope is most abrupt on the E. side, between which and the ocean is a well wooded undulating territory, watered by numerous rivers. The Liverpool range, considerably higher than the Blue Mountains, trend from W. to E. in the N. part of the colony, dividing the co. Bligh and Brisbane from the squatting district, Liverpool plains, N. E. of the range. Sea view, perhaps the loftiest in the colony, rises to the height of 6,000 ft. Shores mostly bold; but indented with some fine bays or inlets, as Botany and Broken Bays, Ports Jackson, Hunter, Stephens, and Hacking, Bateman and Twofold Bays, &c. It was on the E. flank of the Connaballas Mountain, not far from Bathurst, and about 120 m. W.N.W. from Sydney, that the gold deposits were first discovered in 1851. Several of the rivers are of considerable size; but the mouths of all of them are more or less encumbered by bars, so that they are of comparatively little use for navigation. The Hunter, after a winding S. and E. course, estimated at 200 m., disembogues in Port Hunter, near lat. 35° S. The main stream is navigable only for 35 m., but it receives several tributaries available for shipping to a much greater distance; and the districts watered by it and its affluents are the richest in the colony. The Hawkesbury, formed by the junction of the Nepean and Grose rivers, bounds the co. Cumberland on the W. and N., and receives many considerable affluents in its course to the sea, which it enters at Broken Bay. It is navigable for vessels of 100 tons for 140 m. from its mouth. The Macleay disembogues in Trial Bay, lat. 30° 40' S.; it has a bar at its entrance, with, generally, sufficient water for vessels drawing 10 or 11 ft., and is navigable for vessels of 50 or 60 tons for 34 m. from its mouth. (Hodgkinson, p. 9.) Lakes neither large nor numerous: Macquarrie and Brisbane, both in co. Northumberland, are the largest; Illawarra (Camden) and the Tuggerah beach lakes are mere inlets of the ocean, with narrow mouths. The sites of lakes George (co. Murray), and Bathurst (co. Argyle), in the S., have been for many years dry and under cultivation.

The Climate is warmer than that of England, mean temp. at Port Jackson being 66° 6', and at Port Macquarrie 68° Fah. In winter, that is, in June, July, and August, snow sometimes lies on the mountains, and occasionally in the upland valleys, for some days together; but it is wholly

unknown in the vicinity of Sydney and along the coast; there the winter is a season of rain with slight frosts. The annual fall of rain at Port Macquarie amounts to about 62½ inches, and at Port Jackson to 52·42 do.; a much larger amount than at Port Phillip for example, where the average is only 30·7 inches (Strzelecki), though the latter is equal to the average in most parts of England, and considerably greater than the quantity falling on her E. coast. Rain sometimes descends in torrents in N. S. Wales: it is stated that on one occasion 25 inches fell at Port Jackson in 24 hours (Strzelecki); and a river in the mountainous region has risen from a similar cause, in a few hours, to 97 ft. above its ordinary level. But, the soil being in a great measure composed of disintegrated sandstone, this excess of moisture is soon dried up. It is, also, more exposed than most other parts of Australia to hot and parching winds from the N. These, which bear a close analogy to the Simoom of the Arabs and the Sirocco of S. Italy, are very oppressive, and produce ophthalmia amongst both the European and native races. Dysentery and influenza are pretty prevalent, attacking chiefly the inhabs. of European descent.

Count Strzelecki observes, that, compared with the virgin soils which he had examined 'in Canada, the U. States, Brazil, the Argentine Republic, Guatemala, Mexico, and the islands of Bally and Lombok, those of N. S. Wales and Van Diemen's Land are *greatly inferior* in the amount of salts and alkalies they contain, and therefore in fertility.' (Strzelecki, pp. 360, 361.) This territory is, in fact, much better adapted for a grazing than for an agricultural country. The tilled land lies chiefly along the banks of the larger rivers, in the valleys of the Hunter, Hawkesbury, Nepean, Wollondills, Goulburn, &c., and along the Macquarie and Campbell, down to Wellington valley. The farms of the Australian Agricultural Society in the N. are amongst the best conducted and most thriving: the neighbourhood of Newcastle, from its excellent harbour, the facility of obtaining coal, tolerable irrigation, and good roads, is the most flourishing agricultural district in the colony.

The state and progress of agriculture is succinctly exhibited in the following table, which shows the land under crop at two periods:—

Crops	31st March 1862	31st March 1865
	Acres	Acres
Wheat	129,375½	117,854½
Maize	59,149½	78,232½
Barley and Oats	41,799½	50,001
Rye, Millet, and Sorghum	1,496	741
Sown Grasses	43,292½	32,010
Potatoes	10,039½	9,282½
Vineyards	1,130	1,459½
Gardens	8,707½	8,410
Tobacco	2,232	895½
Cotton	—	54½
Other Crops	2,360½	3,196½
Totals	297,575	302,138½

The olive has been introduced to a small extent. Silk also has been tried, but only on a limited scale: though not indigenous, the mulberry grows very well. The orange grows magnificently. The cotton plant, unlike the American description, is a perennial, the same as in Brazil, the East Indies, and Egypt. We believe, however, that these branches of industry are unsuited to the present condition of the colony; and that those who embark in them on anything like an extensive scale will be heavy losers. When the sheep-runs have been all occupied, pop. become dense, and labour

abundant, this sort of farming may be attempted with some prospect of success, but not till then.

Towards the end of last century the sheep in N. S. Wales consisted principally of the breeds of Bengal and the Cape of Good Hope; and the colony is mainly indebted for the introduction of the sheep-farming system, and consequently of its staple source of wealth, to the example and exertions of John Macarthur, Esq. That gentleman ascertained, somewhere about 1792 or 1793, that, by judiciously crossing the colony breeds with those of Great Britain, the quality of the fleece was very much improved, and that it ranked with the best European wool.

The following was the quantity of sheep and other live stock in New South Wales, in the three years 1860-62:—

Years	Horses	Horned Cattle	Sheep
	No.	No.	No.
1860	251,497	2,408,586	6,119,163
1861	238,220	2,271,923	5,615,054
1862	273,389	2,620,383	6,145,661

New South Wales was first colonised by convicts in 1788. In May 1787, six transports and three store-ships conveyed by a frigate and an armed tender, sailed from England with 565 male and 192 female convicts, under the command of Captain Phillip. He arrived at Botany Bay on January 20, 1788, but, discovering Port Jackson by accident, he removed his fleet to it. In 1789 a harvest was first reaped at Paramatta. In 1790 the first grant of land was made to a convict. In 1793 there were 1,200 bushels of surplus wheat grown in the colony, and purchased by government. In 1788 the whole population, including the government establishment and convicts, amounted to 1,030. In 1808 the first newspaper was printed. In 1810 the population, free and felon, amounted to 8,293. There were at the same period 97,637 acres of land granted, and there were in the colony 1,114 horses, 11,276 horned cattle, 34,550 sheep. In 1821 the population increased to 29,783, and in 1828 to 27,611 males and 8,978 females: total 36,598. Of this number, 14,156 were male, and 1,513 female convicts; and 5,302 males, and 1,342 females, free by servitude.

The number of emigrants which arrived in the colony in the twelve years 1829 to 1840 amounted to 41,794. During the years 1841 and 1842 the number of emigrants was 30,224. The population of Sydney in 1833 was 16,233; and in 1836, 19,729. In 1840 it amounted to 29,973; and in 1845-46, to 38,358. The colony was relieved from the transportation of criminals in 1840.

While this was a penal settlement, it was usual, after convicts had been detained for a longer or shorter period, in the hulks or government establishments in the colony, to assign them as servants to the settlers; and subsequently it became customary to give them tickets of leave, enabling them to engage themselves to masters—a privilege which was commonly coupled with a conditional pardon. As might be expected, a distinct line of demarcation was early drawn, and is still, though less strictly, kept up between convicts who had acquired their freedom, and the rest of the population. Society in N. S. Wales is divided into the two classes of free emigrants and their descendants, and of those convicted of any offence, or who have sprung, immediately or remotely, from a convicted party. These classes have, down to a late period, kept as distinct from each other as the pure and impure castes among the Hindoos, or the white and black races in the U. States; but within these

few years, the prejudices in which this separation originated have abated very greatly, and will, probably at no distant period, wholly disappear.

The stimulus given to immigration by the discovery of gold has been less felt here than in Victoria; but it has, notwithstanding, been very powerful. It is impossible, however, to form any conjecture in regard to its continuance, as that must in great measure depend on the future productiveness of the gold fields. But whether it continue about stationary, diminish or increase, still it is plain that the demand of those engaged in the search for gold, for provisions and other articles of accommodation, cannot fail in the end to give a corresponding impulse to every branch of industry, and to re-establish that general equality, taking all things into account, which usually subsists between wages and profits in different departments. How prosperous soever the 'diggings' may be, the labourers drawn to them in the first instance from agriculture and other pursuits will be sure to be restored to the latter, or replaced by others.

The total population of the colony of N. S. Wales, on the 31st of December 1852, was officially estimated at 208,254, of whom 118,687 were males, and 89,567 females. According to estimates made after the returns of the registrar-general, the population numbered:—

	Males	Females	Total
December 31, 1861	202,099	156,179	358,278
December 31, 1862	205,531	161,964	367,495

The returns of immigration for the ten years, 1853 to 1862 inclusive, exhibit the results shown in the following table:—

Quinquennial Periods	Assisted		Voluntary		Total	
	Male	Female	Male	Female	Male	Female
1853-57	34,248	25,455	14,311	9,017	38,559	34,472
1858-62	9,967	9,372	57,982	14,571	67,949	23,943
Total	34,215	34,827	72,293	23,588	106,508	58,416

These figures show that, whilst the assisted immigration has been conducted with due regard to the equalisation of the sexes, the voluntary immigration sets at naught this important social consideration. The above numbers are exclusive of 3,022 Chinese immigrants, who arrived in the year 1859, and of 6,956 of the same nation, which arrived in 1860. They were nearly all males.

According to Count Strzelecki, six acres per head is the least extent of land required in the central part of the colony for pasturage; but from four to five acres is perhaps nearer the average allowed in the runs. The arts of breeding, pasturing by rotation of ground, &c., as pursued in Britain and in Silesia, are in general little understood, most part of the wool-growers being persons who, before emigrating, had little, if any, experience in sheep-farming. The rearing of other stock, though less attended to in the colony than sheep-feeding, is, as seen above, far from unimportant. The quantity of wool exported in each of the years 1861 and 1862 was as follows:—

Exports of Wool	1861	1862
	Lbs.	Lbs.
Seaward	12,745,891	13,482,139
Overland and via the Murray	5,425,318	7,506,254
Totals	18,171,209	20,988,393

During the revulsion that followed the widespread mania for buying land and stock that pre-

vailed in 1836 and 1837, the price of sheep fell from upwards of 2*l.* to 2*s.* 6*d.*, and even 1*s.* a head; and that of cattle from 9*l.* or 10*l.* to 1*l.* or less. In this desperate emergency, when many of the settlers were reduced to bankruptcy, the practice was adopted of slaughtering the sheep for their skins and tallow. To procure the latter, the carcass was boiled down; the best portions of the meat, as the legs, &c., having been first (in some cases) removed for sale or salting. By this means the sheep were made to yield their owners about 5*s.* or 6*s.* per head. But this practice has long since been abandoned.

In the year 1850, about 70,000 acres of land were in cultivation in New South Wales, and the colony had 5,660,829 sheep, 952,852 horned cattle, 63,890 horses, and 23,890 pigs. In 1859 the numbers were: land in cultivation, 217,440 acres; sheep, 7,736,323; horned cattle, 2,110,600; horses, 200,700; and pigs, 92,800. In nine years the number of acres of land in cultivation had been trebled; and above 2,000,000 sheep and more than 1,000,000 head of cattle had been added to the stock. In 1862, the agricultural statistics of the colony, which in the meantime had been deprived of the important district of Queensland, were as follows:—Acres in cultivation, 297,500; above 6,000,000 acres, as yet uncultivated, were enclosed. The number of sheep at the same period amounted to 5,600,000; of horned cattle to 2,270,000; of horses to 233,000; and of pigs to 146,000.

In the early period of the colony, the best part of the country near Sydney was given in free grants to colonists; the rest has been sold by government. The abolition of free grants took effect in 1831, after which land was for a time offered for sale at a minimum upset price of 5*s.* per acre. In 1839 the minimum price was raised from 5*s.* to 12*s.*; the sales producing in that year 92,968*l.*; and in 1840, during the zenith of the land mania, the sales produced 97,499*l.* A period of great depression and general insolvency followed, during which, in 1842, the upset price of land was raised to the sum of 1*l.* an acre.

By an order in council, dated 9th March, 1847, the lands are divided into settled, intermediate, and unsettled; the first of which comprises the 21 cos. in the central part of the colony, lands within from 10 to 25 m. of the principal settlement, 2 m. from either bank of the Glenelg, Clarence, and Richmond riv. (for certain distances), and everywhere within 8 m. from the sea. The governor is empowered to grant leases of runs of land in the settled districts of a year, in the intermediate districts of eight years' duration, and in the unsettled districts for a term not exceeding fourteen years, exclusively for pastoral purposes, the tenant being allowed to raise grain, hay, vegetables, or fruit, for the supply of his establishment, but not for sale or barter. The rent is proportioned to the number of sheep or cattle the run is estimated to be capable of supporting: each run carrying at least 4,000 sheep, or 640 head of cattle, is not to be let at a lower rent than 10*l.* per annum, with 2*l.* 10*s.* additional for every additional 1,000 sheep, or an equivalent number of cattle. During the continuance of the lease the land is not open to purchase by any one but the lessee, who may at any time purchase not less than 160 acres, at not less than 1*l.* per acre. The lease is forfeited by non-payment of rent, &c.; and the government reserves to itself the right of entering upon any portion of the lands thus leased 'for any purpose of public defence, safety, improvement, convenience, utility, or enjoyment.'

Mining is extensively pursued in Victoria. There were, in 1862, coal mines to the number of

twenty-one; and fifteen other mines, of copper, iron, lead, zinc, and silver. The gold fields extend over three districts, called the Western Field, the Northern Fields, and the Southern Fields. The following is a list of the annual yields of gold in the colony, from the first discoveries to the end of 1862:—

Years	Oz.	Value
		£
1861	144,120	468,330
1862	818,751	2,660,940
1863	548,652	1,781,170
1864	237,910	773,200
1865	171,367	654,590
1866	184,600	689,174
1867	175,950	674,470
1868	286,798	1,104,170
1869	329,363	1,259,120
1860	384,085	1,462,772
1861	470,034	1,808,560
1862	584,219	2,306,876

The quantity of gold found in New South Wales, it will be seen, is very considerable, and mining industry continues to be on the increase, as shown by the above table, as well as the official returns of the number of miners' rights and business licences issued in the year 1862. The following figures represent the number of licences issued to miners in each of the two years 1861 and 1862:—

Mining Districts	1861	1862
Western Gold Fields	7,050	17,183
South-western Gold Fields	6,118	4,517
Southern Gold Fields	1,242	1,543
Northern Gold Fields	1,834	1,795
Totals	16,244	25,038

There is thus shown to have been a net increase of 8,794 upon the number of licences issued in 1861.

Assuming that each miner's right or licence represents an individual, and that its possessor was occupied during the whole year in the search for gold, it would appear by the return of production that as nearly as possible twenty-three ounces of the precious metal (supposing it to be equally divided) would fall to the lot of each man. This, at the mint value (3*l.* 17*s.* 10*d.* per oz.), would produce an average wage of 88*l.* 13*s.* per annum, or at the rate of 1*l.* 14*s.* 1*d.* per week per man. (Report of Governor Young, dated Sydney, Oct. 19, 1863.)

Railways	Years	Cost of Construction of Extensions	Traffic	Total Expenditure
		£	£	£
Great Southern	1860	94,300	36,367	130,667
	1861	151,857	39,446	191,303
	1862	126,330	42,002	168,331
Great Northern	1860	101,964	11,200	113,164
	1861	96,434	16,230	112,664
	1862	110,097	19,992	130,089
Great Western	1861	65,208	5,720	70,928
	1862	72,337	7,033	79,370
Total	1860	196,264	47,567	243,831
	1861	313,499	61,396	374,895
	1862	309,363	69,027	378,390

The commerce of New South Wales, in the year 1862, is represented in the following figures:—

The total imports for the year were £9,334,645
The total exports 7,102,562

Showing an excess of imports to the extent of £2,232,083

The imports were at the rate of 25*l.* 8*s.* per head of population, and the exports at the rate of 19*l.* 6*s.* 6*d.* per head. The exports consisted of the following articles:—

Exports	1861	1862
<i>Seaward.</i>	£	£
Grain	84,986	153,061
Butter and Cheese	20,754	19,091
Live Stock	49,280	62,067
Salt Meat	18,513	18,488
Hides and Leather	100,469	105,468
Wool	1,396,426	1,283,818
Tallow	60,816	104,030
Timber	19,554	25,318
Gold	1,890,908	2,715,087
Coal	160,965	245,422
Totals	3,802,661	4,781,780
<i>Overland.</i>		
Live Stock	492,353	529,754
Wool and Hides	380,284	527,005
Fish and other Produce . .	3,360	10,352
Totals	875,997	1,067,111
General Total	4,678,658	5,798,891

The destination of the exports was as follows:—

Exports to	1861	1862
	£	£
United Kingdom	2,037,550	2,142,497
British Colonies	3,025,661	4,725,212
Foreign States	531,628	233,853
Total	5,594,839	7,102,562

As will be seen from the last table but one, the chief articles of export in the year 1862 were wool and gold, the former amounting to 1,283,818*l.*, and the latter to 2,715,087*l.* in value.

The value of the imports into New South Wales, in each of the two years 1861 and 1862, was as follows:—

Imports	1861	1862
	£	£
From the United Kingdom . .	3,062,435	4,814,264
" British Colonies	2,338,641	3,068,593
" Foreign States	990,479	1,451,788
Totals	6,391,555	9,334,645

The principal part of the public revenue, to the amount of nearly one-half, is derived from customs duties, chief among them the import duties on spirits. The other sources of income consist of miscellaneous receipts, the most important of which are from land sales and rents of land. Direct taxation does not exist. The total amount of the public revenue and expenditure, in each of the years 1861 and 1862, was as follows:—

	1861	1862
Revenue	£1,421,831	£1,557,639
Expenditure	1,629,788	1,369,328

The constitution of New South Wales, the oldest of the Australasian colonies, was proclaimed in 1848. It vests the legislative power in a Parliament of two Houses, the first called the Legislative Council, and the second the Legislative Assembly. The Legislative Council consists of twenty-one members nominated by the Crown for the term of five years; and the Assembly of seventy-two members, elected in eighty-nine constituencies. To be eligible, a man must be of age,

a natural-born subject of the queen, or, if an alien, then he must have been naturalised for five years, and resident for two years before election. There is no property qualification for electors. The executive is in the hands of a governor nominated by the Crown.

V. VICTORIA, formerly PORT PHILLIP, or PHILLIPSLAND, comprising all that portion of the continent S. of the river Murray, between lat. 34° and 39° S. and long. 141° and 160° E., having NE., N. S. Wales, from which it is divided by a straight line drawn from Cape Howe to the nearest source of the Murray, and then by that river; W., the colony of S. Australia; and S., the ocean and Bass's Straits, by which it is separated from Van Diemen's Land. It is divided into 24 coas. ex., some very extensive, unsettled and squatting districts. The total area embraces 86,881 Eng. sq. m., with, according to the census of 1861, a population of 540,822 inhabitants.

This territory, from the mouth of the Glenelg river, its W., to Cape Howe, its E. extremity, has about 500 m. of coast, along the most S. part of the Australian continent, towards the centre of which is Port Phillip, a magnificent basin, about 40 m. in length and breadth, entered by a narrow channel, only 1½ m. across. Melbourne, the cap., is situated on a river flowing into the head of this bay; and the flourishing town of Geelong stands on the extremity of its W. arm, about 40 m. from Melbourne. E. of Port Phillip are the bays of Westernport, Corner Inlet, and Lake King; on the W. are Discovery and Portland bays, and Port Fairy. Chief headlands, capes Bridgewater and Otway, and Wilson's promontory. Most part of the surface is level or undulating, and separated by mountain ranges into different basins. The Warrang mountains, or Australian Alps, stretch from the settled country of N. S. Wales southward to the extremity of Wilson's promontory: Mt. Wellington, or Kosciuszko, the culminating point of this chain, rises to 6,000 ft. above the sea. W. of this chain are successive ranges isolated from each other, known by the names of Mount Macedon, the Australian Pyrenees, the Grampians, &c.: they have mostly a N. and S. direction, and, with the Australian Alps, separate the Hume, Hovell, and other tributaries of the Murray from the rivers flowing southward. The rich gold fields of Mount Alexander, near the sources of the Lodon, are about 60 or 70 m. NW. from Melbourne; those of Ballarat lie more to the S.; and there are others in different parts of the colony. The streams in this region are small and unnavigable; but the country is in general well watered, and it contains numerous salt lakes, the principal of which, Lake Carangamite, is upwards of 90 m. in circuit. The climate approaches nearer to that of Great Britain than that of any other part of Australia. It has 'somewhat of an intermediate character between the climates of N. S. Wales and Van Diemen's Land; not so hot as the former in summer, nor so cold as the latter in winter. There is frost sufficient to freeze the surface of the ponds for two or three days perhaps every season, and snow falls occasionally, but more rarely. There is a good deal of wet and cold weather during the three or four winter months; and in summer again, the heat is tempered by cold breezes, the nights being always cool, excepting during the prevalence of hot winds. Fires are agreeable morning and evening for eight or nine months of the year.' (Lang's Phillipland, p. 386.) The temperature at Port Phillip has been found in January to average from 65° to 74° Fah., and in June from 50° 8' to 56° Fah. Its annual range is from 32° to 90°, and its annual mean about

61° 8' Fah. (Strzelecki, p. 229.) Less rain falls here than in either N. S. Wales or Queensland; the annual average at Port Phillip not being more than 30·7 inches; but evaporation being much less rapid than in the latter-named regions, this is probably the district of Australia that is best supplied with moisture. It is, however, like the other portions of the continent, liable to severe droughts.

On the NW. and E. frontiers of Victoria, there is a large extent of arid and desert country, but on the banks of the N. rivers there is a great deal of land well adapted for agriculture, and this also is the case throughout nearly all the country within 50 m. of the coast. Gipp's Land, in particular, NE. of Wilson's promontory, is a basin containing, it is said, 820,000 acres of alluvial soil unencumbered with timber and ready for the plough. The port Fairy district is also sufficiently productive; and, according to Dr. Lang, there is on the Glenelg and Wannon rivers a tract of 50 m. square without an acre of bad land. (Ibid. p. 181.) The produce of wheat in the vicinity of Lake Colac is stated to average 30, and that of barley 40, bushels an acre; in other parts, near the coast, 35 bushels of wheat are said to be a fair average. Sheep-rearing is in this, as in other parts of Australia, a principal branch of industry. Here, as in N. S. Wales, it is chiefly let in large runs to squatters and grazing-farmers.

An attempt made by Col. Collins to form a settlement at Port Phillip in 1803 not having been persevered in, the country remained little, if at all, known to Europeans until its exploration by Messrs. Hovell and Hume in a journey overland from N. S. Wales, in 1824. About ten years subsequently it was surveyed, and reported favourably of as a grazing country, and various extensive tracts of land were, in consequence, purchased from the natives by the Van Diemen's Land Association. Immigration immediately set in with great rapidity from Tasmania; and by the end of June, 1836, the pop. exceeded 200, and the stock of sheep amounted to 50,000. 'A regular village on the site of the present town of Melbourne had been formed; 50 acres of land were in cultivation; gardens had been laid out in various localities, and the country was occupied for 50 m. from the port. For the next eighteen months, the arrivals, both of settlers and stock, from Van Diemen's Land, continued at a similar rate.' (Lang, p. 29.) But the colonial government having refused to recognise the legality of any purchase made by the Van Diemen's Land Association from the natives, or any other in which the initiative was not taken by the crown, that Association, with others, broke up, its members being allowed, 'in consideration of their payments to the aborigines, a remission to the extent of 7,000*l.* of the purchase-money of whatever lands they might choose to purchase in the prov. from the crown.' (Ibid. p. 33.) The purchase-money obtained by the N. S. Wales government for lands in this territory was then appropriated to further immigration, and by the end of 1840, the pop. had increased to 11,738 persons, who possessed 50,800 head of cattle, and upwards of 782,000 sheep, and had 4,875 acres in cultivation. In the years immediately following, the mania for buying land raged as much here as in N. S. Wales: land set up by the colonial government in small lots, and at extravagant prices, was so eagerly bought up, that Dr. Lang states, that 'a single acre of building ground in the town of Melbourne realised 10,000*l.*, or from 15 to 62 guineas per foot of frontage.'

The reaction which followed the land mania was here, as elsewhere in Australia, productive of

wide-spread distress. But the colony, notwithstanding, continued to advance. The progress of Victoria, since the discovery of the gold fields, in 1851, has exceeded everything previously heard of, and is, in truth, all but miraculous. The growth of the population, as shown by the census of nine successive periods, is exhibited in the subjoined table:—

Dates of Census	Males	Females	Total	Number of Females to every 100 Males
May 25, 1836 .	142	35	177	24·6
Nov. 8, 1836 .	186	38	224	20·4
Sept. 12, 1838 .	8,080	481	3,511	14·0
March 2, 1841 .	8,274	3,464	11,738	41·9
March 2, 1846 .	20,184	12,695	32,879	62·9
March 2, 1851 .	46,202	31,143	77,345	67·4
April 26, 1854 .	155,876	80,900	236,776	51·9
March 29, 1857 .	264,334	146,432	410,766	55·4
April 7, 1861 .	328,651	211,671	540,322	64·4

The following were the birthplaces of the population of each sex, according to the census of the year 1861:—

Birthplaces	Population		
	Males	Females	Total
BRITISH:			
Victoria	69,389	68,686	138,075
Other Australian Colonies and New Zealand	10,336	9,800	19,386
England	108,087	61,549	169,586
Wales	4,333	1,722	6,055
Scotland	37,032	23,689	60,701
Ireland	47,176	39,984	87,160
British Colonies (not Australian)	2,575	915	3,490
India: British	437	217	654
" Natives	188	16	204
FOREIGN:			
France	1,028	224	1,250
Germany	8,118	3,300	10,418
Other parts of Europe	6,562	376	6,938
United States	2,209	845	2,554
China	24,724	8	24,732
Other Countries	346	60	406
Born at Sea	987	853	1,840
Unspecified (British Names)	408	255	663
" (Foreign)	31	9	40
" (Names not mentioned)	1,094	106	1,200
Of British Parentage, out of British Possessions	770	409	1,179
Migratory (exclusive of Chinese)	2,873	468	3,341
Total	328,651	211,671	540,322

It will be seen from the above table, that among the natives of the colony the sexes are nearly equally balanced, while they are far from being so among the immigrant population. Yet here, too, exist enormous differences. The immigrants from Scotland and Ireland seem more generally to be accompanied by their families than those from England, while among the foreign immigrants the disproportion in the sexes is very striking. The Germans alone have any considerable number of females among them, and the rest of foreigners are nearly all males. The disproportion is most unfavourable among the Chinese settlers, consisting of more than 24,000 males, but only eight females. The above enumeration, in stating the birthplaces, does not include 1,694 aborigines, namely, 1,046 males and 648 females. The aboriginal race is drawing towards extinction.

By the returns of the census of 1861, the number of persons engaged in agricultural and pas-

toral pursuits amounted to 52,801, exclusive of 642 Chinese and aborigines, the latter nearly all in the squatting districts.

The following tables present a succinct view of the state of Agriculture:—

Total Number of Occupiers on 31st March 1865	Nature of Crops	Land under Crop		
		Year ending 31st March		
		1861	1862	1863
14,960	Wheat	161,252	196,922	162,009
	Maize	1,650	1,714	1,250
	Barley	4,123	3,419	6,830
	Oats	86,337	91,061	108,195
	Turnips	495	187	196
	Mangold Wurzel	1,029	806	806
	Potatoes	24,542	27,174	24,821
	Onions	—	249	143
	Other Vegetables	21,190	430	590
	Other Crops	8,652	8,041	9,382
	Tobacco	91	220	508
	Hay	90,921	74,681	101,639
	Sown Grasses	17,661	16,692	28,713
	Vines	1,138	1,464	2,007
	Fallow	—	16,835	18,342
	Total	419,381	439,895	466,420

The subjoined table shows the produce of this land under crop.

Nature of Crops	Produce		
	Year ended 31st March		
	1861	1862	1863
Wheat	Bushels 3,469,914	Bushels 3,607,727	Bushels 3,008,487
Maize	25,045	20,788	19,720
Barley	83,854	68,118	143,056
Oats	2,633,692	2,136,430	2,504,301
Turnips	Tons 2,276	Tons 1,161	Tons 1,456
Mangold Wurzel	13,445	6,142	8,086
Potatoes	77,258	59,364	50,597
Onions	1,309	Cwts. 6,262	Cwts. 6,548
Other Vegetables	4,128	Tons 2,731	Tons 4,313
Other Crops	Bush. 13,693	Bush. 12,296	Bush. 19,257
Tobacco	Cwts. 1,255	Cwts. 2,552	Cwts. 4,324
Hay	Tons 143,020	Tons 92,479	Tons 110,680
Sown Grasses	1,191	—	—
Vines	No. 2,838,114	No. 3,818,335	No. 4,492,942
Wine produced	Galls. 11,642	Galls. 47,568	Galls. 91,893

The rearing of sheep and the export of wool, tallow, and hides were at Victoria, the same as at the other Australian colonies, the chief industry, until the discovery of gold. But even the 'gold fever' did not interfere to a very great extent with the progress of the staple occupation, as will be seen from the subjoined table, which exhibits the value of the exports of wool, tallow, and hides during the septennial period from 1856 to 1862.

Years	Wool	Tallow	Hides
	£	£	£
1856	1,506,613	35,980	72,103
1857	1,335,642	62,363	191,828
1858	1,678,290	43,987	106,527
1859	1,756,930	10,354	172,446
1860	2,025,066	18,269	144,236
1861	2,088,713	75,784	100,384
1862	2,350,956	66,515	130,350

The total value of the imports and exports of Victoria in the twelve years from 1851 to 1862 was as follows:—

Years	Imports	Exports
	£	£
1851	1,056,437	1,422,909
1852	4,069,742	7,451,549
1853	15,842,637	11,061,544
1854	17,659,061	11,775,204
1855	19,007,939	13,493,338
1856	14,962,269	15,489,760
1857	17,256,209	15,079,512
1858	15,108,249	13,989,309
1859	15,622,891	13,867,859
1860	15,039,730	12,962,704
1861	13,532,452	13,828,606
1862	13,487,787	13,039,422

The immense increase in both the imports and exports, visible in the preceding table as commencing with the year 1853, marks the era of the Victorian gold discoveries. It will be seen that, owing to these discoveries, the imports leaped suddenly from 4 to above 15½ millions, and the exports from 7 to 11 millions, between 1852 and 1853. In 1856 Victoria produced 2,985,606 ounces of gold; in 1857 the quantity was 2,761,528 oz., in 1858 it was 2,528,188 oz., in 1859 it was 2,280,676 oz., in 1860 it was 2,156,661 oz., in 1861 it was 2,072,359 oz., and in 1862 it was 1,711,508 ounces.

The following was the estimated population, distinguishing the Chinese, in each mining district of the gold fields, on December 31, 1862.

Districts	Other than Chinese				Chinese
	Men	Women	Children	Total	
Ballaarat .	31,125	11,028	15,515	57,665	5,752
Castlemaine .	13,973	5,510	4,924	24,407	6,183
Maryboro' .	39,643	8,289	13,238	61,170	3,364
Ararat . .	7,550	2,210	2,400	12,160	1,400
Sandhurst .	13,720	4,080	4,820	22,620	2,740
Beechworth .	13,504	4,260	4,315	22,069	5,447
Total . .	119,515	35,364	45,212	200,091	24,886

The 24,886 Chinese engaged in search of gold were nearly all males, there being but one woman of the same race included in the number. The larger proportion of the Chinese males were between the ages of 20 and 45.

According to returns of March 1863, the population on the gold fields amounted to 229,600, of whom 88,000 were actually engaged in mining. They had in use 776 steam engines, equal to 11,760 horse power. For alluvial mining there were besides 8,256 puddling machines, and a variety of other machinery, estimated of the value of 1,486,000£. The total area of the territory of the colony where gold had been found, from 1851 till March 1863, extended over 1,754 m. The produce of the gold fields, however, appears to be steadily diminishing, and agriculture is again becoming the main industry of the inhabitants of Victoria. (Westgarth Wm., The Colony of Victoria, London, 1864.)

The great, but by no means beneficial, influence exercised by the gold discoveries upon agricultural pursuits, as far as regards the rearing of live stock, is shown in the returns during the twenty-seven years from 1836 to 1862, as given in the following table.

It will be seen, from this table, that the extraordinary growth of commerce, beginning with the year 1863, was marked also by a decrease in the live stock, which continued steadily for several years, till having got to the lowest, it again rose, and, in 1861-62, reached the old figure, showing a healthy revival of agriculture.

Years	Horses	Horned Cattle	Sheep
1836	75	155	41,392
1837	—	—	—
1838	524	13,772	310,946
1839	—	—	—
1840	2,372	50,837	792,283
1841	—	—	—
1842	4,065	100,792	1,404,333
1843	6,278	167,156	1,602,798
1844	7,076	187,873	1,860,912
1845	9,289	231,602	1,792,527
1846	11,400	290,439	2,996,992
1847	13,292	322,824	4,164,208
1848	16,485	386,668	5,190,277
1849	16,733	246,562	5,318,046
1850	21,219	378,806	6,082,783
1851	22,066	390,923	6,589,923
1852	34,021	431,380	6,551,506
1853	15,166	410,139	5,694,202
1854	27,038	481,640	5,332,007
1855	33,430	534,113	4,577,872
1856	47,892	646,612	4,641,548
1857	55,883	614,537	4,766,022
1858	68,323	699,330	5,578,413
1859	69,288	683,534	5,794,127
1860	76,536	722,332	5,780,896
1861	84,057	628,092	6,239,258
1862	86,067	576,601	6,764,851

Victoria possesses the largest railway system in Australia. There were in existence on the 1st of January 1863, the following lines:—

Railways	Length of Lines	Cost of Construction	
		Total Cost	Average per Mile
Victorian Railways:—	Miles	£	£
Melbourne & Sandhurst	101	4,084,080	40,436
Melbourne, Geelong, and Ballarat . .	98	2,064,377	21,065
Williamstown Branch	9	402,250	44,694
Melbourne and Hobson's Bay	6	433,486	68,020
Melbourne and Brighton	6	234,068	35,615
Melbourne	5	357,114	63,431
Total	226	7,575,375	33,435

The whole of these lines were either constructed by the state, or purchased by the same from private companies, the money being raised by loans.

The total amount of the gross public revenue and of the expenditure of the colony, in each of the years 1856 to 1862, was as follows:—

Years	Revenue	Expenditure
	£	£
1856	2,946,658	2,232,064
1857	3,272,040	2,963,326
1858	3,064,783	2,915,379
1859	3,258,792	3,450,241
1860	3,039,035	3,311,308
1861	3,070,721	3,125,767
1862	3,217,750	2,853,121

The chief sources of the revenue of Victoria, until the year 1862, were customs' duties and sales of public lands, which, with some fluctuations, produced about one-half of the annual income. A new source of revenue was more recently added in the receipts derived from public works, including the railways, the management of which remains in the hands of the government.

The debt of Victoria amounts to about nine mil-

lions, of which not more than one million is held in the colony, the rest being held in Great Britain. This debt is almost entirely composed of the great railway loan authorised in 1858, and amounting to eight millions. Seven millions of this sum were made payable in London, and the remaining million in Melbourne. The total of eight millions, it is probable, will be exceeded to some extent in the construction of the railways, in consequence of liabilities involved in the purchase of the Geelong and Melbourne line from a private company, with the object of completing the railway system in the hands of the government. The remainder of the colony's debt consists of several other sums, that amounted originally to above a million and a half sterling. One of these items was 500,000*l.*, and another 200,000*l.*, contracted in the year 1854, on behalf of the municipalities of Melbourne and Geelong, and repayable by the government; another was for 820,000*l.*, expended in the construction of water-works for Melbourne. The great railway loan is not repayable until the years 1883-85; but the other liabilities are to be discharged previous to 1875 (Westgarth, *The Colony of Victoria*, Lond. 1864; Report of Governor Sir C. Darling, dated Melbourne, March 14, 1864.)

The constitution of Victoria was established by an act, passed by the legislature of the colony in 1854, to which the assent of the Crown was given, in pursuance of the power granted by the act of the Imperial Parliament of 18 & 19 Vict. cap. 55. This charter vests the legislative authority in a parliament of two chambers, the Legislative Council and the House of Assembly. The council consists of thirty and the assembly of seventy-eight members. The members of council must be owners of freehold estates worth 500*l.* a year; and are required to be at least thirty years of age and British born subjects. Six members retire by rotation every two years, and new ones are elected by voters, possessed of a property qualification of 100*l.* a year. In the constituencies for the election of members of the assembly, a vote is given to every man of the age of twenty-one years, being a natural born or naturalised subject, holding a freehold estate situate within his electoral district, or being a householder of the annual value of 10*l.*, or having a leasehold of the annual value of 10*l.* It is provided also by the electoral act that no man shall be entitled to vote, who has been attainted, or convicted of treason, felony, or other infamous offence in any part of her Majesty's dominions, unless he has received a free pardon, or one conditional on not leaving the colony for such offence, or has undergone the sentence passed on him for such offence. The members of the House of Assembly receive compensation for their service. The salary of the president of the Legislative Council is 1,000*l.* per annum, and that of the speaker of the House of Assembly 1,500*l.* The executive is vested in a governor-general, appointed by the Crown.

AUSTRIA (ARCHDUCHY OF), the nucleus and centre of the Austrian empire, divided into the two provs. of Austria above the Enns and Austria below the Enns, commonly termed Upper and Lower Austria, lies between lat. 46° 57' 25" and 49° 0' 30" N., and long. 12° 46' and 17° 7' E. It contains 15,017 Eng. sq. m., of which 7,817 belong to the upper, and 7,700 to the lower prov. The boundary of the archduchy is formed towards Tyrol and Carinthia by the central chain of the North Alps, in which the primitive formations predominate. The highest summits are the Gross Glockner, 11,782*l.* ft., Sulzbach Kees, 11,270*l.* ft.,

and Krummhorn, 11,104*l.* ft. Immense glaciers and beds of eternal snow fill the clefts and cover the higher declivities of these mountains, from which several important rivers derive their origin. The N. limestone range of the Alps forms the boundary between the archduchy and Styria, and branches from it cover large portions of the country. One of these, the Wiener Wald, approaches to near Vienna, but it gradually diminishes in elevation as it recedes from the grand chain. To the N. of the Danube the Bohemian forest throws out its offsets to that river's bed, whose banks offer, in consequence, highly picturesque scenery during its course from Passau to Vienna. The Lesser Carpathians and the Leitha hills mark the frontier towards Hungary on the E. The southern, or limestone, range is traversed at several points by the affluents of the Danube, the Inn, Salza, Traun, and Enns, which are navigable along the greater part of their course. The Leitha falls into the Danube in Hungary, and the Morawa, or March, which rises in Moravia, unites with that river on its left bank, a little to the W. of Presburg, after having for some distance marked the Hungarian frontier. The Mur, which rises amongst the lofty summits of Lungau in Salzburg, flows into Styria.

The Danube enters the Austrian territory at Innstadt, opposite Passau, where it is joined by the Inn, which is here nearly as large as the stream into which it merges. Linz being looked upon as the key of the river, strong fortifications have been erected for its protection. The navigation of the Danube between Passau and Vienna is accompanied with no difficulty except that of overcoming a strong current in mounting the stream. The high rocky banks confine the river in one bed, and its depth is considerable, with the exception of a spot near Grein, where reefs of rocks occasion a surf which used formerly to be much dreaded; but they have been so far reduced by blasting, that they no longer offer any serious obstacle to navigators. Between this point and Presburg the fall of the river is said to amount to 450*l.* ft., and the rapidity of its current in the canal of Vienna to be 8*l.* ft. a second. This canal is an arm thrown off from the main stream a few miles above the city, under the walls of which it passes. The main stream is separated from Vienna by the Prater island, and one or two small islets. The island of Lobau, about 2 m. below Vienna, is famous for being the spot to which, in 1809, Napoleon retreated after the battle of Aspern, and from which he issued previously to the battle of Wagram. On the frontiers of Hungary the Danube is once more shut in between the fall of the Alps, which flatten down almost to its level on the S., and the rise of the Lesser Carpathians on the N. bank. This passage divides the river into the Lower and the Upper Danube; the former in antiquity was called the Ister.

The lakes of Upper Austria are celebrated for their picturesque scenery, and are eminently useful as means of internal communication. The most remarkable are those of Gmündner or Traun, 7½ m. in length, and nearly 2 m. across in the broadest part; and of Hallstadt, 5 m. long, and about 1 m. broad; the lake of Aussee, which is much smaller, is connected with the other two by means of the river Traun, and the salt produced along the line it traverses, with the timber and other products of the extensive forests of the *Salzkammergut* (as this portion of the duchy of Salzburg is named), are forwarded by its means to the Danube. The Atter Lake is 1½ m. long, and 2½ m. broad. The lakes Mondsee and St. Gilgen are also extensive, but are not connected with any navigable river,

except for the purpose of floating down wood. The number and variety of the waterfalls add greatly to the beauty of the mountain scenery.

Extensive morasses are found in Upper Austria, in the vale of Pinkgau, or of the Salza. In the Mühl circle, on the N. side of the Danube, and in the neighbourhood of the principal lakes, large tracts of marshy land also occur.

The climate of the archduchy varies according to the elevation of the ground. In Upper Austria the mean temperature at Linz has been found to be $+7^{\circ} 6'$ Reaumur's scale ($=48^{\circ} 28'$ Fahr.); at Salzburg it is $+7^{\circ} 44'$ R.; at Kremsmünster, $+7^{\circ} 4'$. At Vienna the mean heat is $+8^{\circ} 30'$ R. ($=51^{\circ} 7'$ Fahr.); in 1836 it reached $+5^{\circ} 53'$ R. The greatest heat in that year was $+26^{\circ} 8'$ R. ($90^{\circ} 48'$ Fahr.); the greatest cold, $-14^{\circ} 4'$ ($=0^{\circ} 21'$ Fahr.). The mean elevation of the barometer was $28'' 2'' 4'''$. In 1837 the greatest cold was $-15^{\circ} 5'$ R. ($=-1.55$ Fahr.). The elevation of Vienna is 954 ft., that of Salzburg 1,250 ft., above the level of the sea. Baron Welden has fixed the limit of forest vegetation at 5,000 ft., that of eternal snow at 8,000 ft.

The surface of the country in Upper Austria presents a succession of mountain tracts, whose elevation, in the southern parts, admits of little cultivation, but which are extensively clothed with fine and valuable forests. As they subside towards the Danube the country assumes a more cultivated appearance, but the effects of the cold winds from the snow-covered summits is detrimental to the growth of the more delicate plants. The vine is first met with at Krems in Lower Austria: it follows thence the course of the Danube, and where the mountains open near the capital, both their sides and the plains are covered with vineyards, interspersed with fruit trees of every description. The valley of the Enns is remarkable for its luxuriant growth of corn, as is the plain of Tulla on the Danube. The Marchfeld between the Moravian frontier and the Danube is also highly productive, though much exposed to drought.

The archduchy is distributed into ten divisions, whereof five, including the captain-generalship of Vienna, are in the lower, and the like number in the upper, prov. The pop. of the former amounted, in 1857, to 1,681,697, and that of the latter to 707,450, making together 2,389,147.

The agriculture of the archduchy is generally good, although open to many improvements, especially in the cultivation of the vine. The best wines are produced near Vienna. Cyder is extensively made in Upper Austria.

Coals, iron, and alum are produced to some, though but a very limited, extent, in Lower Austria: and in addition to these products, the mines of the upper prov. supply small quantities of gold, silver, and copper. The salt works, at different places in the latter, furnish employment to more than 6,000 individuals, and yield large quantities of salt.

Owing to the great consumption of all articles in the capital, the province exports but little produce, while its imports are proportionally great. As the high roads from Trieste and Hungary to the western and northern provinces pass through Vienna, the carrying business is extensive, and in general well managed; and the communication between the capital and all the provinces is very brisk. The roads throughout the archduchy are excellent, and the communication between Vienna and the upper province, as well as with Hungary, is facilitated by steam navigation on the Danube, by means of which the journey from Linz to the capital is performed in a day, and that

from Vienna to Pesth in eighteen hours. Vienna is also connected by railways with all the provs. of the empire.

The inhabitants of the archduchy are all Germans, and are distinguished for their industry and quickness of apprehension. As the population is more sparingly distributed in the mountainous parts than in the plains and valleys, there is an appearance of well-doing throughout all classes of the inhabitants; and the schools for the lower classes are both numerous and well attended. The dress and manners of the inhabitants of the mountainous parts, especially of Salzburg, resemble those prevailing in Styria and Tyrol, as the manners and customs, as well as the occupations, of the Austrian mountaineer are nearly the same with those of the neighbouring provinces. The business of driving the cattle up to the Alpine pastures in summer, whence in the autumn they are brought down with festive parade, is the department of the women. Hand-weaving and the spinning of flax, cotton, and wool, are much carried on, especially during the winter. Agriculture is the chief employment of the inhabitants of the duchy, and is managed with considerable skill. The mountaineer is confined to more frugal fare than that enjoyed by the inhab. of the plain; oatmeal or barley puddings, prepared with the milk and butter of his cows, being his chief support. Whether this species of nourishment, or the quality of the water, or the nature of his occupations, be the cause of the *gottre* or swelling of the neck, which commences on the mountains on the Styrian frontier, is unknown. The lowlanders' enjoyments are sought in the dance and in the wine-pot, of which his libations, especially of the one-year-old liquor (*heuriger*), are both deep and frequent. The large earnings of the peasantry give a cheerful appearance to a large portion of the lower classes, that is scarcely to be met with anywhere else; and the Lower Austrian deserves credit for both earning the good things of this life, and for enjoying them.

The Gubernia at Linz and Vienna are the chief provincial authorities for the provs. of Upper and Lower Austria. Under these is the captain of the circle, who unites the judicial and administrative powers, in as far as the inhabitants of the country are concerned. In towns the administration of police is confided to a special commissary, and the magistracy performs the judicial functions. The manorial courts of the large proprietors are placed under the courts of the circle, and may be appealed from to the latter. The governor of Upper Austria resides at Linz, the cap. of the prov. and the seat of the authorities. Those for Lower Austria reside at Vienna. The Archbishop of Vienna is the head of the clerical authorities in the Catholic Church for Lower Austria; the Archbishop of Salzburg exercises the same functions for the upper prov. Superintendents at Linz and Vienna conduct the clerical affairs of the Protestants under the Consistory at Vienna. The commander of the forces for both provinces resides at Vienna.

AUSTRIA (EMPIRE OF), one of the largest, most populous, and most important of the European states.

Situation and Extent.—The empire of Austria is situated in central and southern Europe; and, with the exception of a narrow strip at its S. extremity, projecting along the coast of the Adriatic, its territory forms a compact mass. It extends from about 42° to 51° N. lat., and from about $8^{\circ} 30'$ to $26^{\circ} 30'$ E. long. Its length from Lake Constance to the E. frontier of Transylvania is about 850 m., and its breadth (exclusive of Dalmatia), from the S. frontier of Croatia to

the most N. point of Bohemia, about 492 m. The total area is estimated, in the official returns, at 11,252·88 Austrian sq. m., or 236,311 Engl. sq. m. On the S., Austria is bounded by Turkey, the Adriatic Sea, and the kingdom of Italy; W. by Italy, Switzerland, and Bavaria; N. by Prussia and Russian Poland; and E. by Russia and Moldavia. The frontiers of the empire are well defined by natural boundaries, consisting principally of mountains and large rivers, with the exception of a considerable portion of the frontier of Galicia, along the Russian territory, which is quite open.

Divisions and Population.—The Austrian empire is composed of many states, differing widely in extent and population. The greater part of these states having been united under the imperial sceptre by peaceable means—that is, by inheritance or by treaty—the boundaries of all remain as they existed whilst they were independent, with the exception of the reduced Italian provinces.

The following table shows the area and pop. of each prov., according to the census of October 31, 1857. Deducted from the statement are the Lombard provinces ceded to Italy in 1859:—

Provinces	Area in Austrian Square Miles	Population	
		Total	To each Square Mile
Lower Austria	844·49	1,681,697	4,882
Upper "	208·47	707,450	3,394
Salzburg	124·52	146,768	1,179
Styria	380·19	1,056,773	2,708
Carinthia	180·28	332,456	1,844
Carniola	173·57	451,941	2,604
Coast land	138·82	520,978	3,753
Tyrol & Vorarlberg	509·00	851,016	1,672
Bohemia	902·85	4,708,525	5,212
Moravia	386·29	1,867,094	4,833
Silesia	89·45	443,912	4,963
Galicia	1,364·06	4,597,470	3,370
Bucovina	181·69	456,320	2,515
Dalmatia	222·30	404,499	1,820
Lombard-Venetian	436·92	2,446,056	5,598
Hungary	8,727·67	9,900,785	2,556
Servia & Temesva			
Croatia & Slavonia	33·50	876,009	2,615
Transylvania	954·33	1,926,797	2,019
Military Frontier	583·00	1,064,922	1,827
Total	11,252·88	35,019,056	3,114

Included in the above total of the population are 579,989 men, of different provinces, inscribed on the lists as belonging to the military service.

The population is divided with respect to race and language into the following nationalities, according to an official estimate of the year 1861:—

Germans	8,200,000	Magyars	5,050,000
Bohemians	3,600,000	Italians (Inclusive of Latins and Friauls)	3,050,000
Moravians		Eastern-Romans	
Slovacks		Members of other races	
Poles	2,200,000		
Russians	2,800,000		
Slovenians	1,210,000		
Croats	1,360,000		
Servians	1,470,000		
Bulgarians	25,000		

Nearly every province, as shown in the preceding table, differs from the others in the density and distribution of its population. In Galicia and Hungary, both agricultural countries with comparatively little trade, the villages are usually very large and populous, but widely scattered. In the southern and western provinces, the inhabitants are so much diffused over the face of the country, that the inmates of towns form but a small proportion of the whole, and consist almost

exclusively of the nobility and traders. The German and Slavonic provinces show a medium between the two.

Face of the Country.—**Mountains.**—The Austrian empire exhibits every variety of surface. Two grand mountain ranges, branching from the central group of the Alps, traverse it in different directions, throwing out numerous and extensive dependent branches. The first of these, which has been termed the *Hercyno-Carpathian* chain, divides the regions of the German Ocean and Baltic from those of the Black Sea and Mediterranean. Leaving the canton of Grisons, in Switzerland, this mountain range traverses Vorarlberg in a N. direction to the lake of Constance; thence it passes through Wirtemberg and Bavaria, separating the regions of the Rhine and Elbe from that of the Danube, and re-enters Austria on the NE. frontier of Bohemia, where it throws off an extensive branch of the Erz (Ore) mountains, which stretches into that kingdom and into Saxony. Taking a SE. direction from the sources of the Eyer, this chain runs, under the name of the 'Bohemian Forest,' nearly to the Danube, where it once more diverges to the NE., and dividing Moravia from Bohemia, sends out a branch into Prussian Silesia and Lusatia, named the Riesen (Giant) mountains. On the frontiers of Galicia and Hungary it joins the Carpathians, which branch off to the Danube near Presburg. The central Carpathians form the boundary between the above-named provinces, as far as the sources of the Save and Dniester, where a chain of low heights stretches from them into the Russian territories, separating the region of the Vistula from that of the Dniester. The eastern Carpathians cover the NE. counties of Hungary, the Bukowine, and Transylvania, as far as the Danube.

The second mountain range, which has much more elevated summits, and covers a larger tract of country, divides the region of the Mediterranean from that of the Black Sea: it stretches from the frontiers of Switzerland and Italy in three chains, which, through the Tyrol, run nearly parallel to each other. The central chain exhibits the primitive formations of granite and slate: its summits are covered with eternal snow, above the elevation of 8,000 feet. Following the right bank of the Inn, as far as the point of junction of Salzburg and Carinthia, it takes a NE. direction through Styria into Hungary, and subsides in the Leitha chain near the Danube. The two accompanying chains are of limestone: that on the N. covers northern Tyrol, Salzburg, and great part of the Archduchy of Austria, and is intersected by the numerous streams which flow from the central chain to the Danube. The S. parallel chain sends its ramifications from S. Tyrol into Italy, and, passing through Illyria and the Croatian frontier district, unites with the Balkan on the borders of Bosnia. Three important branches strike off from this chain, one of which stretches between the rivers Raab and Drave, under the name of the *Bakony* Forest, into Hungary; a second divides the region of the Drave from the valley of the Save; and the third, stretching along the Adriatic through Dalmatia, is called by the natives, from its dark colour, *Monte Nero*, or *Negro*.

The principal valleys in Austria are situated in the southern provinces, and run parallel with the Alps, in the direction of W. to E. They are found in Tyrol, Salzburg, Styria, and Illyria. Croatia belongs for the greater part to the valley of the Save; and Slavonia to the valley of the Drave.

Large plains are also found within the empire; they follow, for the most part, the course of the principal rivers. The plain or basin of Vienna,

which stretches from the Leitha mountains to the heights of Moravia, is traversed by the Danube and the March. In Hungary there are two very extensive plains; one in Upper Hungary, situated between the Carpathians and the Bakony forest; the second, extending from the E. fall of the last-named forest and the Matra hills to the rise of the Transylvanian mountains, and from the central Carpathian chain on the north, to the mountains of Slavonia on the south. The plain of the Vistula and the San, in Galicia, is a portion of the great level which stretches from the fall of the Carpathians on the north to the Baltic.

Rivers and Lakes.—Two thirds of the Austrian empire are comprised in the basin of the Danube. This great river enters Austria at Engelhard's Zell, near Passau: in its SE. course through Upper and Lower Austria and Hungary, it receives all the rivers falling from the two grand mountain ranges described above; the chief of which are, on its left bank, the March, Waag, Gran, Theiss, and Tees, and on its right bank, the Traun, Enns, Raab, Drave, and Save. These rivers, with many of their tributaries, are navigable to a greater or less extent, and afford very extensive means of commercial communication. Bohemia belongs to the basin of the Elbe, which, rising on its NE. frontier, traverses it in a direction from N. to S., and then W. and NW., being navigable for barges from Melnik, where it is joined by its important tributary the Moldau, flowing N. by Budweis and Prague. The Oder has its source in the chain of hills which connects the Silesian Mountains with the Carpathians. The Vistula has its sources in the Carpathians, near Jablunka. It may be navigated, in favourable seasons, for the greater part of its course along the NW. frontier of Galicia. It receives the Dunajetz, the Wisloka, and the San. The last-mentioned river is sometimes navigable for a part of its course by flat-bottomed boats drawing little water; but the truth is, that the navigation of *all* the Galician rivers is liable to much obstruction, especially in dry seasons. Even the navigation of the Vistula, from Cracow downwards, is frequently interrupted; and the difficulty of transport thence arising occasions the extraordinary discrepancy that usually obtains between the prices of wheat and other grain in Dantzic and in Galicia. The Dniester, which, also, has its source in the Carpathians, runs in a SE. direction through the centre of the E. portion of Galicia, being occasionally navigable for barges from Koniuszki, 35 m. SW. Lemberg. The Adige, the Tagliamento, and the Lisonzo, traverse the provinces of Venice and Illyria in their course to the Adriatic. The Rhine bounds the extreme W. frontier of the empire for a small portion of its course before it falls into the Lake of Constance.

On the N. side of the Alps the largest Austrian lakes are those of Atter-Gmündin or Traun, Hallstadt, and Augsee, connected together by the Traun, and the lakes of St. Gilgen and Monel See. The Neusiedler and Balaton lakes, in Upper Hungary, are, however, by far the largest in the empire; the water of the former is saltish. On the S. side of the Alps, Lake Garda forms the western boundary of the Austrian dominions.

Climate.—Four distinct climates are found within the limits of this extensive empire. The most southerly part of Dalmatia produces the palm-tree, and at Ragusa, the mean elevation of the thermometer is stated by Blumenbach to be +11° 8' R., or 57° 3' Fahr.: upon a line drawn along the S. foot of the Alps, the mean temperature at Milan is +9° 4'; at Temeswar, +9° 2'. On the N. side of that chain, in Linz, it is +70° 6'; in Vienna, +80° 5' (nearly the climate of Stras-

burg); Buda, 80° 8'; in Klausenburg, +80° 8'. In Prague, the mean heat is +70° 9'; in Olmutz, +70° 3'; in Troppau, +70° 3'; in Lemberg, +60° 1'. R. Wine and Indian corn do not thrive to the N. of the last drawn line, except in unusually favourable situations; but corn of all other descriptions, flax, hemp, and hardy fruits, attain perfection. The observations at Vienna give for the mean temperature only +70° 2' R. The air is for the most part clear and salubrious; but the heats of summer and the colds of winter are both in what we should consider extremes. The greatest quantity of rain falls in Tyrol and Vorarlberg, the smallest quantity in the central districts of Hungary and in Dalmatia, which often suffer from excessive drought. In this last province, the fall of rain averages 12 in.: at Vienna the average is about 16 in. The classification given by Francini for Switzerland has been found to suit Tyrol with equal precision.—1. The region of the vine from 700 ft. to 1,700 ft. above the level of the sea.—2. The region of the oak, from 1,700 ft. to 2,800 ft.—3. The region of the beech, 2,800 ft. to 4,100 ft.; the walnut only reaches 3,500 ft.; the plum-tree 3,720 ft.; pear and apple-trees, 4,100; but little wheat is grown in this region, but the meadows are excellent.—4. The region of fir, from 4,100 to 5,500 ft.—5. The lower Alpine region, famous for its pastures, 5,500 ft. to 6,500 ft.—6. The Upper Alpine region, 6,500 ft. to 8,200 ft., above which is the region of eternal snow.

Natural Productions and Minerals.—The mineral riches of the Austrian empire, supposing they were fully developed, are probably not inferior to those of any other European country. Besides gold and silver, considerable quantities of which are produced by the mines of Transylvania and N. Hungary, Austria has inexhaustible supplies of the more useful metals, with coal and salt. Native steel, or carbonated iron ore, is found in Styria and Illyria, in masses that require rather to be quarried than excavated. Of the rarer metals, *titan* is found near Roese, in Hungary, *uran* in the Sudesen in Bohemia, *tellurium* in Hungary and Transylvania. Besides the opals of Hungary, the most beautiful that are known, an inferior kind is found in Moravia; carnelian, beryl, chalcodon, topaz, garnet, and amethyst, in Bohemia and Hungary, of superior quality. Coal has been found in nearly every province, but the cheapness and abundance of fire-wood have hitherto prevented much search from being made after it. Upwards of 100 descriptions of marble, quartz for the manufacture of glass, clays for porcelain and mineral dyes of all kinds, are also found in abundance. Upwards of 100 mineral springs are annually frequented; amongst which Carlsbad, Toeplitz, Marienbad, &c., attract visitors from all parts of the world.

Animals.—All the domestic animals found in England are met with in the Austrian empire. Exclusive of these the brown bear is indigenous in the Alps and the Carpathians, the wolf in both these mountain chains, and the lynx is found in all the provinces. The chamois, red and fallow deer, roebucks, wild boars, all descriptions of game known in England, with the exception of grouse, and several other kinds of birds unknown in our islands, are objects of chase. The urus and elk are sometimes found in the E. Carpathians, but only as stragglers. The ibex is nearly exterminated. Herds of wild horses of a diminutive size range the Hungarian plains; and even where the improvement of the breed is attended to, they are allowed to rove almost in a state of nature. The golden eagle inhabits Slavonia, and other large species are found in the Rhetian and Noric Alps.

Heron of various kinds, some of the choicest plumage, abound in the morasses of Hungary; and there also the land tortoise is found in great numbers. The same morasses furnish an abundant supply of leeches, whence they are regularly transported by means of a series of ponds, that serve as so many stations, to Paris and the W. of Europe. Wax is an important product of the Bukowine and other S. provinces. Cantharides are found in several parts of Hungary; cochineal in Galicia; and pearls of a beautiful water are fished in the Moldau.

Vegetable Products.—These comprise the different sorts of corn and of cultivated grasses found in Europe, with vines, flax, and hemp, tobacco, hops, saffron, wood, some species of indigo, yellow wood or *rhus cotinus*, galls, and an immense variety of fruits. The forests are of vast extent, and will, no doubt, come to be of great value. The mountain chains of the northern provinces and of the Alps are covered with fir, pine, beech and larch. The low grounds, including the vast forest of Bakony in Hungary, with others in Transylvania, the Bukowine, Galicia and Slavonia, produce oaks of a gigantic size, with beech, ash, alder and elm. Every prov. is well supplied with wood, with the exception of Low Austria and Hungary, where, from neglect of management and bad economy, the stock has in many parts been alarmingly reduced. In the other provs. the forests are well managed; and care is taken to supply the annual consumption by sowing and planting in proportion to the quantity felled. The proprietors of estates are obliged, in Austria, as all over Germany, to employ foresters, who have been educated in forest schools, and have passed the necessary examination. Their business is to calculate the quantity of timber that may be felled without diminishing the stock. The means at their command in back ranges of mountains are generally applied with great ingenuity to forward the felled trees to the common channels of communication. A kind of hollow railroad of timber (*Riesen*), sloping down the side of a mountain, often several thousand yards in length, and down which the trunks of trees are precipitated, is one means of transport. The trunks are raised from a valley to the summit of a neighbouring chain, over which they have to be transported, by means of ropes and pulleys, worked by a rude water-wheel temporarily erected by the woodman on a little brook (*Holzauzug*); and the springs near the summits being led into a temporary reservoir on the ridge of the hills, the burden thus raised is received by it in order to be precipitated into the hollow on the other side, when the sluices confining the waters are opened (*Klausen*). The Tyrolese are particularly distinguished by their ingenuity in devising these sorts of contrivances, and by their wooden fabrics. Among others they construct houses and shops, the parts of which being regularly marked and numbered, are packed up and conveyed by the Lake of Constance to the adjoining countries, where they are erected with the utmost facility. But while this ingenuity is shown in the management of the mountain forest-tracts of fir, the far richer wooded districts of Slavonia, the military frontier, and Upper Hungary, in which the more valuable forest trees attain a size unusual in Europe, are neglected and but little known. There are 3,186.5 Aust. sq. m. of woodland. The forests produce, on an average, 30,000,000 Vienna fathoms of wood per annum, mostly of excellent quality. The forests yield, besides, 500,000 cwts. of gall nuts, 100,000 cwts. of potash, 250,000 cwts. of turpentine and resin, and 4,000,000 cwts. of tanning bark, an-

nually. Without counting considerable tracts within the forests which are used for grazing purposes, there are in the empire 2,820.8 sq. m. of grass land. These, produce, annually, about 863,000,000 cwts. of hay, and 200,000,000 cwts. of various herbage for fodder. Some idea of the extent of the oak forests may be formed from the fact that nearly 200,000 bushels of gall apples are annually exported. The distribution of the forests is, however, very irregular; and, while in the mountainous tracts they are of immeasurable extent, the want of firewood is so great in the plains, that dried dung is a common substitute for faggots. In Transylvania, especially, and the military frontier, the forests are of great extent, and filled with trees of the finest quality, equally adapted for the use of the builder and the naval architect.

Roads and Railways.—The rulers of Austria have always paid great attention to the development of all internal means of communication. From Verona on the SW. frontier, an uninterrupted *Macadamised* road conducts the traveller to Czernowitz in the Bukowine, a distance of upwards of 1,000 m. From the Italian frontier to Vienna there are three lines of road, and through Galicia the line is double. Three grand high-roads from Venice, and two from Trieste, lead to the Tyrol and Germany, and double lines run from each of these cities to the capital. Prague is connected with Vienna by numerous lines of communication, which are continued to the frontiers of Bavaria, Saxony, and Prussian Silesia. Materials for making roads abound in most provinces, though not in all, and the art is well understood. Upwards of sixty mountain passes, varying from 10 to 70 m. in length, have been made not only practicable, but commodious for travelling and commercial purposes. On the roads across the Alps, through Tyrol and Illyria, the greatest sums have been expended; their importance in a military point of view, and the necessity of facilitating the communication with a powerful and not very well affected province, rendering them indispensable. The road over the Stelvio, or Wörms Joch, in S. Tyrol, passes over an elevation of 8,400 feet above the level of the sea, and is covered in dangerous parts with solid stone arches, over which the avalanches glide into the depths below. This undertaking surpasses the roads of the Simplon and Mont Cenis in boldness and splendour of execution.

The railway system of Austria dates from the year 1849, when the most energetic efforts were made by the imperial government to raise the material prosperity of the country. The principle adopted at first was to construct the chief lines at the expense and under the supervision of the state; but the financial emergencies of the government subsequently occasioned the abandonment of this principle, and nearly all the railways thus constructed were given up to private companies, formed by French and German capitalists. Considered without reference to the division among companies, the Austrian railway system consists of two great lines, running from north to south and from east to west, and crossing at right angles, the point of junction being at the capital of the empire. Numerous branches connect the outlying districts with these two great trunk lines; and there is scarcely a single town of importance not embraced within this network of iron roads. The subjoined two tables show the various railways extant in the Austrian empire, together with the receipts and expenditure of each in the year 1863:—

RECEIPTS OF AUSTRIAN RAILWAYS.

Denomination of the Railways	Transport of Passengers	Total
	Florins	Florins ^a
Emperor Ferdinand's (Northern) Line	2,285,291	15,662,416
Railways of the Southern, Lombardo-Venetian, and Central Italian Companies—		
1. Vienna-Trieste Line	3,590,832	14,770,372
2. Hungarian Lines	614,981	3,314,158
3. North and South Tyrol Line	478,433	1,068,541
4. Venetian Lines	1,624,783	3,678,841
Austrian State Companies—		
1. Northern Line	2,429,648	8,512,862
2. South-eastern Line	2,589,970	8,465,741
3. Vienna New Sâonyer Line	868,634	1,673,460
Empress Elizabeth's (Western) Line—		
1. Vienna-Salzburg-Passau	2,146,677	5,153,368
2. Branch Line, Lambach-Gmünd	41,262	209,298
3. Branch Line, Linz-Budweis	24,834	544,163
Graz-Köflach Railway	66,584	374,738
South-North German Junction	274,391	1,046,829
Bustehrad Railway—with locomotives	19,572	570,766
Bustehrad Railway—horse tramway	15,002	173,895
Bohemian Western Line	288,229	955,911
Aussig-Töplitz Line	82,664	360,129
Břitinn-Rositz Line	22,592	320,275
Galician (Charles-Louis) Line	903,079	3,640,412
Presburg-Tirnau Line	65,049	148,437
Theiss Railway	1,032,740	2,904,851
Pünfkirchen-Mohacs	44,046	656,145
Sum total	19,994,183	74,200,808

EXPENDITURE AND SURPLUS.

Denomination of the Railways	Total Expenditure	Surplus of Receipts over Expenditure
	Florins	Florins ^a
Emperor Ferdinand's (Northern) Line	7,391,624	8,370,792
Railways of the Southern, Lombardo-Venetian, and Central Italian Companies.		
Austrian State Railways Company	8,475,049	14,956,563
Empress Elizabeth's (Western) Line—		
Vienna-Salzburg-Passau	2,296,705	2,856,563
Branch Line, Lambach-Gmünd	144,294	65,004
Branch Line, Linz-Budweis	431,305	112,858
Graz-Köflach Railway	163,748	210,990
South-North German Junction	673,076	373,784
Bustehrad Railway—with locomotives	264,854	305,912
Bustehrad Railway—horse tramway	119,754	54,141
Bohemian Western Line	418,691	537,220
Aussig-Töplitz Line	168,076	192,063
Břitinn-Rositz Line	122,003	163,272
Galician (Charles-Louis) Line	1,771,098	1,869,314
Presburg-Tirnau Line	110,728	32,709
Theiss Railway	1,716,805	1,188,046
Pünfkirchen-Mohacs Railway	312,613	343,532

an average dividend of $5\frac{1}{2}$ per cent. to their proprietors.

The river system of Austria, though upon a grand scale, is less available for the purposes of internal communication than is, perhaps, usually supposed, the navigation of the greater number of the rivers being liable to be seriously impeded both by floods and droughts, especially the latter. It is also to be regretted that none of the navigable Austrian, Hungarian, or Croatian rivers have their embouchure in the Adriatic; but are all affluents of the Danube, which, after traversing the centre of the empire, pours its waters into the Black Sea, whence only it is accessible. To obviate this deficiency it has been proposed to unite the navigable river the Save, one of the principal tributaries of the Danube, with the port of Fiume on the Adriatic; it being supposed that the corn and other produce of Hungary might be conveyed by its means to a much more convenient and better market than it is ever likely to meet with at Galatz or other port near the mouth of the Danube. But it has not been seriously attempted to realise this project; and though it were realised, it may, as previously stated, be doubted whether it would have the anticipated success. It would cost a very large sum: and the expense of conveying so bulky a commodity as wheat by its means, would be so great that the probability is it might be brought cheaper to Marseilles by Galatz than by this channel.

For many years past, the Danube has been navigated by steamers from Ratisbon to Vienna, which thence convey goods and passengers to Galatz, Trebisond, Constantinople, and Smyrna. But its navigation is subject to considerable difficulties. From Vienna to Presburg, the river is so very shallow as to be navigable, in dry seasons, only by vessels drawing from 18 inches to 2 or $2\frac{1}{2}$ feet water, and even their progress is not unfrequently interrupted by changes in the channel of the stream, and the shifting of movable sandbanks. Lower down, for a space of about 80 m., between Moldova and Gladova, where the river leaves the Austrian territory, its channel is much contracted; and the water rushes over its rocky bed with so much violence, especially at the point called the Iron Gate, near Orsova, that it cannot be safely navigated downwards except during floods, and is nearly impracticable for vessels ascending the stream. Various efforts have been made, in modern times, to obviate this difficulty, but with no very decided success. In consequence, passengers and goods, passing up and down the river, are now mostly conveyed by road from the one end of the rapids to the other. (See for further details on this subject the art. DANUBE.)

Ports and Harbours.—The principal commercial port of Austria is Trieste upon the Adriatic. It is a free port, and is, with Venice, which has the same privilege, shut out of the customs line; the duty on goods imported into them not being demanded until they are sent into the interior. Venice is the seat of the admiralty, and has dockyards and naval arsenals. Pola, in Istria, celebrated for its magnificent amphitheatre, has one of the finest harbours in the Mediterranean; but it is so very unhealthy that it is almost uninhabited.

Shipping.—Since the loss of Flanders, the mercantile navy of Austria has been wholly concentrated in the ports on the Adriatic. But it is, notwithstanding, very considerable; and engrosses a large share of the trade of the Mediterranean and Black Sea. The oak timber of Carniola and the Dalmatian coast is reckoned about the very best in the world; so that the Austrian ships, being built of it, are very strong, at the same time that they are particularly handsome. They are

The whole of the above lines, chiefly constructed by the state, became private property at the end of 1863. They carried in the same year nearly fifteen millions of passengers, and returned

also well manned and provided. The seamen are expert, temperate, and orderly; and the laws for the regulation of the merchant service are said to be excellent.

By far the greater number of vessels of large burden belong to Trieste. The rest belong to Venice, Fiume, Ragusa, and the Bocche di Cattaro. On the other hand, the smaller vessels employed in the coasting trade, which is very considerable, are more equally divided; Venice having, probably, as many as Trieste, while a good number belong to the ports of Istria, Hungary, and Dalmatia.

The foreign trade of Trieste comprises all voyages beyond the limits of the Adriatic; and may be divided as follows:—

1. The Levant trade, including the Ionian Islands, Greece, Constantinople, Smyrna, Odessa, &c., the ports in Syria, Cyprus, Candia, and Egypt, more especially Alexandria.

2. The *ponente* or Mediterranean trade, in the west, comprising the coast of Barbary, Spain, France, and Italy; being principally carried on with Marseilles, Genoa, and Leghorn.

3. The commerce on the ocean, which the Austrian merchants have attempted with considerable success. Several ships sail for Brazil, Cuba, the U. States, England, Hamburg, &c.

The commercial marine of Austria consisted, in June 1862, of 9,708 vessels, of an aggregate burden of 349,157 tons, and manned by 34,664 sailors. Only 606 of these ships, of 228,800 tons burden, with 6,742 seamen, were for the 'long course,' and all the rest small coasting vessels. But the list comprised 59 steamers, of 21,338 tonnage, with 1,700 sailors.

There is an important steam navigation company at Trieste, under the name of Lloyd's Austriaco. They have a large number of steam boats with which a communication is kept up between Trieste and Venice, the Dalmatian harbours, Greece, Smyrna, and Alexandria.

State of Agriculture.—The arable land, continuously or intermittently under tillage, comprises 3,582 Austr. sq. m. distributed among the several provinces, as shown in the subjoined table.

Provinces	Number of Austrian Sq. Miles	Scale of Percentage of the whole Area
Austria, Lower	141.4	41.1
" Upper	78.6	35.3
Salsburg	11.7	9.4
Styria	86.8	22.1
Carinthia	23.9	13.3
Carniola	23.7	13.6
Littoral	24.1	17.3
Tyrol and Vorarlberg	36.0	5.1
Bohemia	433.1	48.0
Moravia	196.1	50.8
Silesia	41.6	46.6
Galicia	555.1	40.7
Bukowina	44.6	24.5
Dalmatia	24.4	11.0
Lombardo-Venetian Kingdom	169.8	28.9
Hungary	1265.3	33.9
Croatia and Slavonia	89.0	26.6
Transylvania	216.1	22.6
Military Borderland	136.6	23.4

The value of arable land fluctuates between 80 and 1,500 florins—3*l.* and 150*l.* per acre; the latter being the average price paid in the German provinces. (Arenstein, Oesterreich in der Weltaussstellung, 1861; Report of Mr. Fane, Her Majesty's Sec. of Embassy, 1863.)

The following is the estimated annual produce, after government returns published in the year

1862, of the principal kinds of grain. It is given in *metzen*; 1 metzen equal to 1.691 bushel:—

	Metzen
Wheat (annual produce)	50,000,000
Oats	100,000,000
Rye	65,000,000
Barley	50,000,000
Maize	44,000,000
Mixed Corn	15,000,000
Millet and Buckwheat	10,000,000

The mean market price of grains in Austria during the year 1861 was, for wheat 4.5 florins, rye 2.7 florins, maize 2.6 florins, and oats 1.8 florins, Austrian currency. Cereals form a very important item in the export trade of the empire, as I have had frequent occasion to show in my former reports. In the year 1861, the value of cereals and fruits exported amounted to 45,538,698 florins, being an increase on the value of the exports of 1860 of 5,308,482 florins.

It is computed that of hemp and flax there is produced annually 3,000,000 cwts., of hops 40,000 cwts., of other commercial plants 230,000 cwts. The amount of the crops of linseed and hempseed is estimated at 2,500,000 metzen, of rape-seed 1,200,000 metzen: the produce of olive-oil is 100,000 cwts. The quantity of tobacco grown in 1861 was 1,000,000 cwts. Tobacco (like salt) is an article of government monopoly; but by a law which has recently been passed, the growers of this important plant are now permitted to export on their own account any surplus of the commodity which may be left on their hands by the government purchasers.

Hungary has almost unequalled capacities for the production of wheat and of all sorts of corn; but these have hitherto been all but wholly neglected, and, with a few trifling exceptions, agriculture, within the Hungarian territory, is in a state of primeval barbarism. The country from Pesth to the borders of Transylvania, and from Belgrade to the vine-bearing hills of Hegyalja, is a vast plain, from 12,000 to 15,000 sq. m. in extent, traversed by the Danube, the Theiss, and the Maros, and presenting, one should think, the most inviting field for the labours of the husbandman. Mr. Paget, in his work on Hungary, remarks on this vast plain as follows:—"The soil of the plain (*Puszta*), as might be anticipated from its extent, and, I might add, from the nature of the rocks from whose debris it has been formed, is various in its nature and in its powers of production. A considerable portion is a deep sand, easily worked, and yielding fair crops in wet seasons; a second, found principally in the neighbourhood of the Danube, Theiss, and Temes, is boggy, and much deteriorated in value from the frequent inundations to which it is subject, but capable of the greatest improvement at little cost; and a third is a rich black loam, the fertility of which is almost incredible. When the reader reflects that this fruitful plain is bounded on two sides by the largest river in Europe, that it is traversed from N. to S. by the Theiss, and that it communicates with Transylvania by the Maros, it is almost impossible to calculate what a source of wealth it might prove to the country. In any other part of the civilised world, we should see it teeming with habitations, and alive with agricultural industry, the envy of surrounding powers, the granary of Europe. Here it is the most thinly populated, the worst cultivated, and the least accessible portion of the country. Various causes have contributed to produce this effect. Most of the inhabitants of the plain are Magyars, whose warlike propensities induced them to take the most active part in the constant wars in which

the country was formerly engaged. . . . Among the Magyars, too, the number of children is generally small: why the Irish should be so prolific on starvation, and the Magyars so much the contrary on abundance, is, I must confess, a mystery to me; but such is the fact. The ease with which the land is obtained, its cheapness, the richness of the soil, and the few wants of the people, have also operated to check the progress of improvement in agriculture. The formation of roads, too, is rendered exceedingly difficult by the distance from which the necessary materials would often require to be conveyed; but still more by the unjust character of the law, which throws the whole burden of making them on the peasant, thus rendering it impossible to expend so large a capital as would be required for their first formation in such situations.' (Travels in Hungary, ii. 3.)

Wine is a principal object in various parts of Hungary, and much care is usually bestowed both on the culture of the vineyards and the manufacture of the liquor. The best of sweet wines, Tokay, owes its celebrity entirely to the care with which the ground is tilled and the grapes sorted. The vine is, also, extensively grown in Transylvania; and though nothing can be ruder than the present process of wine-making in the prov., the wines are remarkable for their bouquet and flavour, and have considerable body. There are throughout the empire, according to returns made in 1862, under government inspection, 110 Austrian sq. m. of vineyards, besides 140 Austrian sq. m. of 'fields planted with vine.' The annual production of wine ranges between 30,000,000 and 40,000,000 eimers—1 eimer being equal to 12·449 English gallons. (Report of Mr. Consul Fane, dated Vienna, Feb. 16, 1863.) The culture of silk is rapidly increasing, and might be raised in every part of Hungary. A great obstacle to the improvement of agriculture was removed by the Diet of 1836, when a law was passed for fixing the division of land. Down to that period the peasant only tilled his portion for three years, after which another was allotted to him by his lord, and the share he possessed was either given over to others or turned into grazing land. The want of a market for their corn, and their nomadic habits, have tempted the Hungarians to prosecute, on a large scale, the raising of sheep and wool.

Galicia is throughout an agricultural prov. Its most fertile portion begins to the E. of the San, and follows the course of the Dniester, being part of the great plain extending nearly from the Carpathians to the Black Sea, and embracing Podolia, the Ukraine, and Moldavia. The soil is here nearly as rich as that of the best parts of the great Hungarian plain, and produces the beautiful white Dantzic wheat, so much prized in the London market. That large portion of the land, which is held in small parcels by the peasants, is in Galicia particularly ill cultivated and unproductive. The rent of the holdings of the peasantry is commonly rated in contributions of labour (*robot*), payable to the proprietors; and as the latter generally insist on this labour or service being performed when it is most valuable, and is most needed by the peasants themselves, it leads to endless quarrels and oppression; and, besides being the bane of agriculture, has been the principal source of the atrocities that have been committed by the peasantry on their lords. The estates of the nobility in Galicia are in general pretty well farmed, and may be classed with those of Bohemia, Moravia, Austria, and the provinces to the south of the Danube. On these estates regular rotations of crops, with artificial grasses, are now pretty general; and many of the machines in use

in England, such as improved ploughs, sowing and threshing machines, &c. have been introduced. A gentleman, who farms his own estate in a part of Moravia, where the soil is of average quality and the climate has a mean temperature, has furnished us with the following details:—

An estate of mean size contains from 850 to 1,400 Eng. acres of arable land, 140 to 420 acres of meadow land, and 1,000 to 2,500, or more, acres wood, according to the situation, that is, whether near the mountains or in the plain. The estates conferring the right of representation (*landtäfliche Güter*), and which are only held by knights or nobles, are of all sizes, from a few acres to several German sq. m. These estates can, strictly speaking, be held also by a commoner, but only on his paying a portion of the taxes twice over, and on his renouncing the right to all kinds of patronage and judicial authority. The estates of mean size may be estimated at two-thirds of the whole. In Moravia, about thirty are found to exceed 82 Eng. sq. m. in extent. In purchasing land, a profit of from 4 to 4½ per cent. per annum is generally looked for. The size of the peasant's holdings is also very various. In the plains a peasant's holding may be about 28 Eng. acres. In the hilly parts, where the population is thinner, and the soil less productive, it is 30, 40, and in some parts 70 acres. Half holdings, quarter holdings, as well as cottiers with small gardens, are also frequent. It is, however, supposed that of the peasant families two-thirds hold land, and about one-third may be considered as mere labourers. The mode of cultivation adopted by the peasants in the low lands is a rotation of three crops, viz. wheat, rye, summer corn, fallow; the fallow being only partially used. In the hilly parts the fallows are more used for potatoes, turnips, flax, &c.; in the mountains tillage is more irregular. Oats, potatoes, and flax are grown; and in the more elevated spots oats and buckwheat. On the greater part of the small estates of the nobles a better rotation of crops, with clover, green food, and meadows, prevail, according as the soil or the local advantages of common grazing (which is very extensive everywhere) render it necessary.

Distilleries and breweries are commonly established on large farms; and the culture of beet having been of late years greatly extended, there are numerous factories for the extraction of sugar from the root.

It is not usual to let land on lease in these parts of the empire. The few cases in which this mode of tenure occurs must rather be considered as exceptions than as a rule, although it is the opinion of competent judges that the incomes of the large landholders would be increased by the introduction of the practice. In Poland villages are often let for short terms, that is, an estate with the resident labourers upon it, who are bound to labour so many days in the week in lieu of rent for their lands. 'In the management of his holding the peasant enjoys the liberty of turning at pleasure vineyards into meadows, of tilling pasture fields, or of converting the tillage fields into pasture; only in the case of woods the landlord reserves a right of inspection, to prevent, and punish, their being dealt with contrary to contract. But the peasant cannot let his land, nor leave it uncultivated, nor sell it in parcels. From the peasants' holdings the lord usually derives, 1st. All that was stipulated on the original cession of the land, whether in the shape of a rent-charge in money or otherwise. 2ndly. The *Landemium*, or fine, on transfer, whether by sale or inheritance (usually 5 per cent.). 3rdly. The *Robot*, or personal service, the maximum of which has been

fixed by law. This consists generally in three days' work, with a waggon and horses, weekly, for the peasant's entire holding; the half holding gives one and a-half day's work, and the quarter holding two or three days' labour, weekly; cottagers give from ten to thirteen days per annum. 4thly. The right of grazing on uncultivated fallows and stubbles; which however the peasant may exercise upon the land of his lord. 5thly. The great and small tithes, which are often ceded to the church, or have been otherwise transferred. Dominical property (allodial estates) pay, in general, no tithes. The peasant may cede or leave by will his holding to whichever of his sons he pleases; but it is then usually charged with a sum for each of his brothers and sisters. The custom prevails of leaving it to the eldest son; but it is often ceded during the father's life, who retains a certain quantum of the produce for his own use: this generally happens when the father wishes to free his son from liability to the conscription.'

The gross amount of the agricultural and horticultural produce of the soil throughout the empire is estimated at an annual value of 1,600,000,000 florins, or 160,000,000*l*.

Great attention is now being paid to the breeding of cattle in Austria. Horses, mules and asses, oxen, sheep, goats, and swine are bred in vast quantities. The value of the cattle of all kinds now existing in the empire is estimated at 1,000,000,000 florins, and the annual produce from them comprises 100,000,000 emiers of milk (partly made into butter and cheese); 20,000,000 head of young cattle; 18,000,000 cwts. of meat and fat from grown cattle; 12,000,000 hides and skins; 700,000 cwts. of wool: the whole being estimated at a total value of 450,000,000 florins.

The rearing of silk worms is largely practised in the south of the empire; Venetia and the Southern Tyrol supplying annually about 270,000 cwts. of cocoons, estimated at a value of 22,000,000 florins, or 2,200,000*l*. (Report of Mr. Consul Fane, dated Vienna, Feb. 16, 1863.)

We refer to our articles on STYRIA, ILLYRIA, HUNGARY, and TRANSYLVANIA, for some notices of the mining wealth of the Austrian empire. Iron and native steel are found in such abundance in Styria and Illyria, that the ore is merely quarried from mountains several thousand feet in height, which are solid blocks of carbonate of iron ore. Yet these riches are but very imperfectly used. The whole production of iron, in the year 1863, amounted to 4,918,698 pounds, the greater quantity of which, viz. 3,157,988 pounds, came from the German provinces. Of steel, 646,346 pounds were manufactured during the same period. The article of native steel is especially worthy of attention; for though, owing to the want of improved means of communication, English steel be, at present, sold cheaper at Trieste, yet not only is the quality of the Styrian and Illyrian metal superior, but it is found in such abundance, that it could supply the most extensive demand. The mining industry of Austria occupied, in the year 1863, a total of 107,834 persons, viz. 98,556 men, 4,009 women, and 5,269 children.

The total number of factories in the empire amounted to about 12,000 in the year 1858. Since that time no returns have been published, the old system of government supervision and regulation, as well as the privileges of close trades and guilds, having succumbed to a freer spirit of legislation. By an imperial decree of Dec. 20, 1859, a new 'Gewerbe-ordnung' was introduced, which repealed nearly all the restrictions previously incumbent on the free exercise of the various industrial occupations. The principal seats of the cotton

and woollen manufactures are, Bohemia, Moravia, Silesia, and Austria; and there they have attained to considerable perfection. Coarse cloths are everywhere manufactured; and large exports of cotton and woollen wares, especially of inferior shawls and red caps, are annually made to Turkey and the East. Linen is a leading article of manufacture; spinning and weaving forming the principal employment of the peasantry during the winter, especially of the women, in the northern provinces. In Galicia, not only a portion of the rent, but, in many large establishments, a part of the wages of servants, is paid in linen. The stained glass ware of Bohemia is a truly beautiful fabric, being superior in the richness and brilliancy of the colours to any that is elsewhere produced. It is extensively exported. Bohemian pure crystal is not, however, equal to that of England.

There are a great number of women and children employed in the various manufacturing establishments, and the government has framed for their protection special laws, which are rigidly enforced. The chief of these regulations are as follows:— 1. The earliest age at which children can be employed is at twelve years. 2. The only exception shall be for children who, at nine years of age, have for three years received a religious education and attended school; but as long as these children shall continue at an age at which they ought to attend school, the manufacturers shall watch over their education, and call to their aid the ministers of the gospel, but without interrupting their work. 3. For children between nine and twelve years old the *maximum* of the time they are to work is fixed at ten hours, and between twelve and sixteen years of age at twelve hours, but they shall be allowed an interval of one hour. 4. Manufacturers are bound to prevent all disorder and scandalous conduct among the adults in their establishments. 5. Manufacturers shall keep registers, in which shall be entered the names and ages of the children, their residences, and the period at which they entered the manufactory. This register shall be produced before the magistrate and the minister of public worship whenever it may be required. 6. All contraventions of these regulations shall be punished with a fine of from 2 to 100 florins; and in case of a repetition of the offence, the offender may be interdicted from having any children under twelve years of age in his employment.

The best and surest scale for a ratio of the development of factory system and production by machinery is the consumption of mineral coal, this fuel having been comparatively little used in the households of Austria. But the consumption of coals has, since 1839, increased from 10 to nearly 70 million cwts. Moreover, there is in the industrial districts of the Giant and Ore mountains scarcely any water-power left that is not availed of, so that at present water-works make their way out of the valleys into the plains; and in the immediate vicinity of coal-fields large industrial districts are rising into existence where the works are carried on with steam-power.

Commerce.—The trade of Austria, owing to her central situation, and the distance of all her most important provs. from the sea, labours under considerable natural difficulties. Notwithstanding these, there has been of late a steady increase both in exports and imports, owing chiefly to the partial adoption of free-trade principles. However, a large portion of the revenue is still derived from customs' duties, chiefly on imports, as will be seen from the following table, which shows the chief articles, and classes of articles, imported in the year 1863, and the amount of duties levied on them.

IMPORTS.

Designation of Goods as classed in the Tariff	Value of Imports	Customs Revenue
	Florins	Florins
Colonial Wares and Southern Fruits	15,849,737	5,012,122
Tobacco and Manufactures of Tobacco	2,733,647	13,529
Cereals and Fruits	12,299,963	368,441
Animals	17,607,927	1,235,728
Animal Products	7,189,941	166,318
Grease and Oils	18,357,885	854,485
Liquors and Edibles	2,203,119	552,444
Materials for Fuel and Timber	5,676,534	7,969
Medicaments, Perfumes, Dyeing, Tanning, and Chemical Stuffs	17,434,867	257,739
Metals, precious, raw and half-manufactured	33,505,135	373,315
Weaving and Loom Materials	17,523,596	39,821
Yarns	21,169,668	1,294,856
Woven and Loom Goods	9,968,980	1,442,008
Paper and Stationery	1,222,295	40,276
Leather and Leather Goods	5,333,000	200,230
Wood, Glass, and Clay Wares	3,270,866	95,856
Metal Goods	2,670,058	190,192
Vehicles	324,000	11,850
Machines and Hardware	6,238,074	440,489
Chemical Products, Colours, and Fats	2,018,442	108,918
Printed Books and Objects of Art	5,251,470	11,105
Sum total	232,732,554	12,587,705

The subjoined table exhibits the exports of the year 1863, together with the customs' revenue derived therefrom, which, it will be seen, was very slight.

EXPORTS.

Designation of Goods as classed in the Tariff	Value of Exports	Customs Revenue
	Florins	Florins
Colonial Wares	5,780	
Tobacco and Manufactures of Tobacco	588,806	
Cereals and Fruits	45,538,698	
Animals	9,309,386	
Animal Products	4,355,125	41,961
Grease and Oils	8,842,076	
Liquors	3,940,300	
Materials for Fuel & Timber	24,897,510	79,748
Medicaments, Perfumes, Dyeing, Tanning, and Chemical Stuffs	4,303,386	27,533
Metals, precious, raw and half-manufactured	35,541,670	
Weaving and Loom Materials	35,646,949	
Yarns	2,582,215	227,607
Woven and Loom Goods	48,721,538	
Goods made of Straw, Bast, Paper, and Stationery	5,126,321	
Leather and Leather Goods	13,505,300	
Wood, Glass, and Clay Wares	22,872,411	
Metal Goods	16,382,674	
Land and Water Vehicles	3,953,000	
Instrument, Machines, and hardware	22,493,852	
Chemical Products, Colours, Fats and Combustibles	4,499,938	
Printed Books and Objects of Art	2,493,560	
Refuse, Rags	106,758	27,830
Sum total	310,687,250	404,189

The progress of Austrian commerce in the twelve years 1851-62 is exhibited in the subjoined statement:—

Years	Imports	Exports
	Florins	Florins
1851	158,074,663	136,524,444
1852	209,329,840	195,804,828
1853	207,262,290	228,924,871
1854	219,165,017	228,440,293
1855	248,288,157	244,134,142
1856	301,144,329	263,928,641
1857	292,995,251	242,363,721
1858	308,285,929	275,599,871
1859	268,227,783	292,363,721
1860	231,226,702	305,197,493
1861	235,847,057	307,680,155
1862	214,918,496	333,853,018

The chief commodities imported into the United Kingdom from Austria are corn and flour, hemp, tallow, glass beads, olive oil, quicksilver, currants, cream of tartar, lard, seed, shumac, sponge, wood, and wool. In 1862, the total value of the imports amounted to 1,179,802*l.*; in 1861, to 1,246,046*l.* and in 1860, to 986,364*l.*

The declared value of British produce and manufactures shipped to the Austrian dominions in 1862 was 787,561*l.*, an amount less by 180,340*l.* than in 1861, and by 206,108*l.* than in 1860. Cotton manufactures and cotton yarn alone produced more than a moiety of the yearly transactions.

The usual coins in circulation are the ducat of Holland = 4 *fl.* 80 *kr.*; the sovereign = 13*½ fl.*; the florin of 20 = 1 fine mark, divided into 60 *kr.*; 1*l.* sterling, at par = 9 *fl.* 81 *kr.* Bank notes, of 5 *fl.* and upwards, circulate, as well as the notes belonging to the depreciated currency, of which 5 *fl.* = 1 *fl.* in silver, and 1 *fl.* = 24 *kr.* This is denominated *Vienna value*; the silver value is called that of the *Convention*. Pieces of 20 *kr.*, silver, 3 of which form a florin, with smaller pieces of 10, 5, and 3 *kr.*, form the silver coinage. The 20 *kr.* piece is termed, in Italy, *lire Austriaco*.

Income and Expenditure.—The financial system of Austria has been till recently involved in much mystery. The taxes vary in the different provs., and are seldom assessed on the same principles. The taxes are distributed under the two great heads of *direct* and *indirect*. The former comprise, 1st. The land-tax, or *contribution foncière*, extending generally over the empire, but assessed differently in the different provs.; 2nd. The house-tax, from which Hungary is exempted; 3rd. A poll-tax, confined chiefly to the Italian provs.; 4th. A tax on industry, or rather on licences required to carry on certain branches of industry; 5th. A tax on Jews; and 6th. A tax on successions. The indirect taxes, which also differ in different provs., consist principally of excise duties on liquors and butchers' meat; customs duties, the important monopolies of tobacco and salt, stamp duties, and some others of minor importance.

To the revenue of the empire the German-Slavonic population contributes about 65 per cent., the kingdom of Hungary 25 per cent., and Lombardo-Venice about 6 per cent. The monopoly of the government for the sale of tobacco, one of the principal items of revenue, has existed since the year 1670. This source of income has been continually increasing of late years. There are several branches of the administration, such as the departments of the interior, of the army, the navy, and of public education, which have special funds at their disposal, derived from what may be called endowments, and consisting chiefly in landed property.

The subjoined tables show the revenue and expenditure of the empire for the year 1863:—

REVENUE OF 1863		
	Florins	£
DIRECT TAXES:—		
Land Tax	62,481,200	6,378,082
Buildings Tax	19,261,300	1,964,653
Trade Tax	5,814,900	593,120
Poll Tax	5,271,000	537,840
Legacy Tax	29,500	3,009
Income Tax	15,157,700	1,546,085
Taxes on Military Quar- ters	1,799,100	183,510
INDIRECT TAXES:—		
Excise	57,678,700	5,923,227
Customs	15,247,515	1,555,246
Salt	33,059,600	3,372,079
Tobacco	30,901,470	3,151,947
Stamps	13,116,519	1,337,884
Taxes on legal professions	21,271,639	2,169,706
Lotteries	6,034,400	615,513
Post-office	3,714,200	378,850
Tolls	2,928,600	298,717
Stamping Metals	66,500	6,783
Venetian Dues	106,010	10,813
Indirect Taxes on Military Quarters	155,564	15,867
Revenue from State Lands	7,615,187	776,748
Other Receipts	2,874,520	293,201

EXPENDITURE OF 1863		
	Florins	£
Civil List	7,458,700	760,787
Reichsrath	726,537	74,106
Cabinet	76,000	7,752
Council of State	151,837	15,487
Foreign Affairs	2,486,150	253,587
Ministry of State	25,727,580	2,624,213
Ministry for Ecclesiastical Affairs	4,734,500	481,899
Provincial Chancelleries	18,572,185	1,894,358
Ministry of Finance	21,584,786	2,201,646
of Justice	9,150,567	933,357
of Police	2,645,676	269,857
Commerce	4,613,142	470,540
Other Branches	1,386,200	131,392
War	107,023,000	10,916,306
War, Special Revenue	5,777,000	589,254
Navy	10,481,619	1,069,125
Quotas of Interest to Companies	4,843,050	493,991
Interest on Debt	113,698,750	11,596,272
Old Debts	18,870,500	1,924,791
Railway Telegraphs	5,061,961	516,320
Loss on Bills and Coin	7,118,420	726,079

The progressive increase of the revenue of the empire in the course of fourteen years is exhibited in the subjoined statement, drawn up from official returns:—

Year	Revenue	
	Florins	£
1850	197,443,372	19,744,337
1851	225,005,350	22,500,535
1852	230,110,271	23,011,027
1853	238,383,665	23,838,366
1854	250,094,220	25,009,422
1855	282,722,005	28,272,200
1856	290,189,337	29,018,933
1857	317,396,986	31,739,698
1858	315,188,865	31,518,886
1859	260,829,196	26,778,774
1860	301,559,455	30,650,998
1861	342,349,714	34,523,222
1862	321,969,584	32,587,110
1863	398,657,965	39,821,497

The decline of the revenue in 1859 marks the detachment of the flourishing Italian provinces. The war of that period is still more strikingly visible in the expenditure, shown in the following table, which gives the expenditure and the ac-

companying deficit, during the years 1851 to 1863:—

Years	Expenditure	Deficit
	£	£
1851	29,629,950	7,129,415
1852	30,973,167	7,962,089
1853	32,144,224	8,305,858
1854	40,724,310	15,714,888
1855	44,104,190	15,831,990
1856	37,121,231	8,102,297
1857	37,085,643	5,345,945
1858	36,705,268	5,136,382
1859	49,159,425	24,380,651
1860	32,732,660	4,081,662
1861	36,005,926	3,482,704
1862	35,459,246	4,672,136
1863	38,442,715	5,221,208

The Austrian budget was settled, up to the year 1863, from the first of November to the last day of October every year. A change was introduced in 1863, when it was arranged that, for the future, the financial accounts of the empire should run current with the ordinary year. To accomplish the change, the budget estimates for 1863-64 were for fourteen months, from November 1, 1863, to the last day of December, 1864. The revenue for this period of fourteen months was estimated at 570,047,335 florins, and the expenditure at 609,447,289 florins, leaving a deficit of 39,399,954 florins, to be covered, with part of former deficits, by the loan of 70,000,000 florins.

The public debt of the empire has grown up gradually since the middle of the last century. At the end of the Seven Years' War, in 1763, Austria had a debt of 150,000,000 of florins, which grew to 283,000,000 in 1781, and at the commencement of the French Revolution, in 1789, had risen to 349,000,000. From this period the debt grew in extraordinary proportions. From 1789 until 1863, there was not a single year in which the revenue of the state came up to the expenditure. On the 31st December, 1863, the total liabilities of the state, both consolidated and floating, amounted to 2,364,316,761 florins, of which the floating debt consisted of 396,972,206 florins.

Form of Government.—The emperors of the house of Hapsburg, previously to the year 1848, ruled the dominions accumulated under their sceptre in an absolute manner, commonly described as 'paternal despotism.' The revolution of the year 1848, originating among the German portion of the population, put an end to this sway, by originating a purely democratic constitution, which the emperor was forced to sign on the 4th of March, 1849. This very liberal charter, however, was repealed by an imperial decree of Dec. 31, 1851, which substituted a more absolute form of government; and, during the following years, new edicts altered the public charter. Finally, by an imperial diploma, dated Oct. 20, 1860, followed by a decree, or 'Patent' of February 26, 1861, the present constitution of the empire was established. Its main features are a tripartite legislature, consisting, first, of the provincial diets, representing the various states of the monarchy; secondly, a central diet, called the *Reichsrath*, or council of the empire; and, thirdly, a reduced form of the latter, entitled *Enger Reichsrath*, or Partial Council of the Empire.

There are eighteen *Provincial Diets*—namely, for Hungary, Bohemia, Lombardo-Venice, Dalmatia, Croatia and Slavonia, Galicia, Higher Austria, Lower Austria, Salzburg, Styria, Carinthia, Carniola, Bukowina, Moravia, Silesia, Tyrol and Vorarlberg, Transylvania, Istria and Trieste. The

diets of all these provinces are formed in nearly the same manner, only differing in the number of deputies. Each consists of only one assembly, composed, 1st, of the archbishop and bishops of the Roman Catholic and Oriental Greek Church and the chancellors of universities; 2nd, of the representatives of great estates, elected by all landowners paying not less than 100 florins, or 10*l.*, taxes; 3rd, of the representatives of towns, elected by those citizens who possess municipal rights; 4th, of the representatives of boards of commerce and trade-unions, chosen by the respective members; and 5th, of the representatives of rural communes, elected by such inhabitants as pay a small amount of direct taxation. The provincial diets are competent to make laws concerning local administration, particularly those affecting county taxation, the cultivation of the soil, educational, church, and charitable institutions, and public works executed at the public expense. Hungary, Croatia, and Transylvania have separate constitutions, allowing somewhat greater latitude of self-government. The diet of Transylvania, convoked for July 1, 1863, consisted of 165 members, of which number 125 were elected by the people, and 40 nominated by the crown. In the elections, every man has a vote who has attained the age of twenty-four, and pays direct taxes to the amount of 8 florins, or 15*s.*; and capable of being elected are all citizens of the age of thirty who 'are of irreproachable character.'

The Reichsrath, or Council of the Empire, consists of an upper and a lower house. The upper house is formed, 1st, of the princes of the imperial family, who are of age; 2nd, of a number of nobles—sixty-two in the present reichsrath—possessing large landed property, on whom the emperor may confer the dignity of state-councillors; 3rd, of the archbishops and bishops who are of princely rank; and 4th, of any other life-members nominated by the emperor, on account of being distinguished in art or science, or who have rendered signal services to church or state—forty-seven in the present reichsrath. The lower house is composed of 843 members, elected by the eighteen provincial diets of the empire in the following proportions: Hungary, 85; Bohemia, 54; Lombardo-Venice, 20; Dalmatia, 5; Croatia and Slavonia, 9; Galicia, 38; Higher Austria, 10; Lower Austria, 18; Salzburg, 3; Styria, 13; Carinthia, 5; Carniola, 6; Bukowina, 5; Moravia, 22; Silesia, 6; Tyrol and Vorarlberg, 12; Transylvania, 26; and Istria and Trieste, 6. The election for the lower house of the reichsrath is made in the assembled provincial diets, the elected deputies to be members of such diets. The emperor has the right, however, to order the elections to take place directly by the various constituencies of the provincial representatives, should the diets refuse or neglect to send members to the reichsrath.

The emperor nominates the presidents and vice-presidents of both chambers of the reichsrath, the remaining functionaries being chosen by the members of the two houses. It is incumbent upon the head of the state to assemble the reichsrath annually. The rights which, in consequence of the diploma of Oct. 20, 1860, and the 'Patent' of Feb. 26, 1861, are conferred upon the reichsrath, are as follows:—1st, *Consent* to all laws relating to military duty; 2nd, *Cooperation* in the legislature on trade and commerce, customs, banking, posting, telegraph, and railway matters; 3rd, *Examination* of the estimates of the income and expenditure of the state; of the bills on taxation, public loans, and conversion of the funds; and general control of the public debt. To give validity to bills passed by the reichsrath, the consent of both chambers

is required, as well as the sanction of the head of the state. The members of both the upper and the lower house have the right to propose new laws on subjects within the competence of the reichsrath; but in all other matters the initiative belongs solely to the government.

The Enger Reichsrath, or Partial Council of the Empire, is formed by the full reichsrath, leaving out the representatives of Hungary and of Croatia in both houses. The laws passed by the partial council, and sanctioned by the sovereign, have effect in the whole empire, excepting these two provinces. It is with the object of giving the formerly independent realm of Hungary and her dependencies a larger share of self-government than the remaining provinces of Austria, that the Enger Reichsrath has been instituted.

The legal code of Austria remains, in its most essential points, the same as the 'Gesetzbuch,' drawn up by a commission of lawyers by command of the late emperor Francis I., and published by his order. It is much praised as a theoretical compilation; but open to the objections raised against all codes in practical respects. In Austria the decisions of the judges are not published, and each judgment interpreting a paragraph of the codes is a fresh improvisation on the part of the judge. If it be discovered that, under the same circumstances, a former judge or another court decided differently, the case is referred to the ministry of justice, which decides what the law is in that particular case; but its decision is not to be taken as a construction of the law for future cases. The judges are removable, and may be promoted at the pleasure of the crown; but, like all other employees, can only be dismissed with pensions, unless convicted of improper conduct by some court of justice. In all cases trials under the late régime took place in secret, and the proceedings were in writing: even the examination of witnesses was not public: the decision was according to the votes of the president and assessors of the court. Criminal trials were protracted to an enormous length; and accused persons were often suffered to be in prison for years before their cases were brought on. All this has been altered under the new constitution, by which the laws of Austria are brought more in conformity with those of the West-European states, particularly of France. However, the police is still entrusted with very great powers, infringing on the liberty of the individual. The political and local exercise of its authority includes not only the preservation of public order, but the permitting strangers to reside in any part of the empire,—the allowing subjects themselves to change their places of abode or to travel, passports being requisite even in the country itself, and frequently only procured after long delay and much trouble. The police of the provinces is entrusted in the large towns to a board, whose officers are appointed by the crown: in small towns to the magistracy: in the country the captain of the circle united these functions with his judicial and administrative powers.

The Austrian prisons are divided into three classes:—state prisons, for political offenders, the chief of which are the Spielberg at Brunn in Moravia, Kuffstein in Tyrol, Munkacs in Hungary, Lemberg in Galicia, and Venice; houses of correction (Zuchthäuser) in all the chief towns, in which criminals are kept at hard labour (those in irons are sent to the fortresses); and houses of detention, under the care of the police, in which persons who are arrested are kept before and during the judicial proceedings. A large prison, on an improved plan, was erected some years since in a healthy situation at Vicenza. It is usual to give every needy

prisoner, on his discharge, a small sum of money, to keep him from the temptations of momentary indigence.

The Church and Clergy.—The state religion of Austria is the Roman Catholic, and next in importance stands the Greek Church. Calvinism and Lutheranism are also professed by large numbers of the people; the former mostly in Hungary and Transylvania, the latter in the German provinces and in Galicia. The ecclesiastical hierarchy of Austria comprises 11 Roman Catholic archbishops, 1 Greek archbishop, 1 Greek schismatic archbishop, and 1 Armenian archbishop. The Roman Church has further 59 bishops, with chapters and consistories, and 43 abbots of ancient endowed monasteries, in Austria, Styria, Illyria, Bohemia, and Moravia. Hungary has 22 abbots with endowments, 124 titular abbots, 41 endowed and 29 titular prebendaries, and 8 college foundations. Transylvania has 8 titular abbots, and upwards of 150 monasteries and convents; and Galicia 70 monasteries. The Greek United Church has 1 archbishop and 1 bishop in Galicia, and 5 bishops in Hungary. The Armenian Catholic Church has an archbishop at Lemberg. The archbishop of Carlowitz is head of the Greek Church, with 10 bishops and 60 protopapas or deans. The Protestants are placed under 10 superintendents for the Lutherans, and 9 superintendents for Calvinists. In Hungary and Transylvania, the Protestants choose their superintendents, who are controlled by district inspectors. A great part of the Magyar inhabitants of Hungary are Calvinists, and Protestants enjoy, in that kingdom and its dependent lands, equal rights with the Catholics. The Unitarians are tolerated, or rather recognised by law, in Transylvania, where they have a superintendent, and are dispersed over 164 parishes. The Roman Catholic religion is dominant throughout the empire; and, in case of dispute, the right to the tithes is assumed to be vested in the parish priest. The extent of landed property in Austria belonging to the Catholic Church is very considerable. Though reduced in number within the last half century, there are still nearly 800 abbeys, and above 500 convents in the empire. Some of the Roman Catholic prelates have very large incomes, as the archbishop of Prague, the revenues of whose see amount to 150,000 florins, or 12,500*l*. The church is, however, far from being the only possessor of the tithes; its wealth consists principally in endowments of land, or revenues charged upon estates. The richest see is the primacy of Hungary, the archbishopric of Olmütz being next in importance. On the suppression of the convents by Joseph II., a portion of the confiscated lands and revenues was appropriated to form a fund for improving the salaries of the parish clergy, the minimum of whose incomes has been fixed at 300 *fl*. for a parish priest, and 150 *fl*. for a chaplain or curate. This fund is nominally under the control of the bishop, as far as concerns his diocese; yet estates belonging to it are constantly advertised for public sale. The united Greek and Armenian Churches are assimilated to the Roman Catholic Church, as far as their parishes extend. The schismatic Greeks possess a fund, vested in *bonum nationis*, in Hungary, which is managed by the metropolitan and three assistants. The Protestant confessions have no endowed churches or parishes out of Hungary and Transylvania, the clergy elsewhere being chosen and supported by their flocks. The right of presentation to livings is vested, in general, in the landed proprietors and various corporations, as in England. The parishes in the gift of the crown, as heir to the suppressed convents, are numerous.

The emperor nominates all the bishops, with exception of the archbishop of Olmütz, who is chosen by the chapter of that city.

Church property throughout all the provinces except Hungary and Transylvania, is very taxed; and the state inherits a moiety of the personal property of every Catholic clergyman, it being of course supposed that he has no direct natural heirs. But the line of policy respecting the Church of Rome, of which the emperor Joseph laid the foundation, has not of late been adhered to; new religious orders having been suffered to establish themselves, and even the Jesuits have been permitted openly to settle in several provincial towns. The number of members of the various religious persuasions is as follows, according to the census of October 31, 1857, deduction being made of the provinces ceded in 1859:—

Catholics	23,368,686	Calvinists	2,161,766
Greek Church	3,694,896	Unitarians	50,541
United Greeks	3,118,605	Jews	1,049,871
Lutherans	1,286,799	Other Sects	2,350

The Jews, formerly much oppressed, and subject to all manner of indignities, have been not only released from all these restraints since the year 1849, but have even become powerful in the state, owing to the great wealth amassed by many members of the community.

Classes of Inhabitants, and State of the Provinces.—The three classes of *nobles, citizens, and peasants* were strictly defined in all the provinces previously to the late changes. The nobility are both numerous and rich in Austria, where estates are generally entailed; and the higher offices of the court, the army, and the church are reserved for this class. The members of the male sex of the various noble families throughout the empire are estimated at 250,000. Of these, 168,000 belong to Hungary, 24,900 to Galicia, and 2,260 to Bohemia. The latter country has fourteen princely families, 172 families of counts, 80 of barons, and 100 of knights. Their total incomes are estimated at 18,000,000 *fl*., or 1,800,000*l*. The privilege of manorial rights can only be enjoyed by a noble in Austria. These include the right of presentation to livings and schools on his estates, and the right to hold courts of justice in the first instance. Other privileges are those of peculiar tribunals, before which he can only be cited; the freedom from the conscription; and the right of sitting in the provincial estates. These immunities are also enjoyed by the newly-created nobility; but the court draws a marked distinction between old families and those recently ennobled. As the patent is given without difficulty to all who are willing to purchase it, the price thus paid by citizens who wish to become landholders, may be looked on as a tax laid upon the transfer of estates. Persons not of noble birth, who do not purchase a patent of this kind, pay a double amount of certain taxes. The peasant is personally free throughout the empire; and an appeal being allowed from the manorial court of his lord to the circle court, his condition is daily improving, and his rights and property obtain more respect. But the fact that, in some provinces of the empire, the rent of his cottage and land is paid in contributions of labour, is a great drawback upon his industry and upon the improvement of agriculture. On the introduction of the present system of direct taxation by Maria Theresa and Joseph II., an arbitrary regulation of the dues claimed by the landlords was effected, and the total amount which a landlord could demand, whether paid in money, service, or kind, was not to exceed 17 *fl*. 46*g* *kr*. for every 100 *fl*. which the land produced. At the same time the pea-

the property in the land he held, from whatever was declared indisputable; and though the may seize upon his stock and moveables, he not eject for arrears of rent, unless the land be on lease; which is by no means common in Austria.

Great differences are found in the state of civilisation of the different provinces. Among the higher classes, in the great capitals, this difference is nearly imperceptible; the universities and the better institutions for instruction being open to the inhabitants of all provinces, and being arranged throughout on a uniform plan. Another cause of this similarity in the larger towns is the great proportion of Germans found among the trading classes, even in the Slavonic and Hungarian districts. The mass of the people are most advanced in the German provinces; then come the Italian population; and next the Bohemians, Silesians, and Moravians. The Slavonians of Carinthia, Carniola, and Illyria, may be ranked with the Poles or Moravian inhabitants of Hungary. The rude and almost nomadic life led by a large portion of the Magyars of Hungary, will be noticed in treating of that country. The Dalmatians stand on the lowest footing of civilisation in Europe. The want of a central point of national interest to which the inhabitants of the provinces might have looked, and which might have directed the current of popular feeling in each to the common advantage of all, has been strikingly felt; and each province having its own representation by estates, and many having had a different form of government from the others, each has been led to look upon itself as having interests separate from the rest. The effects of this system have of late years grown especially perceptible in the repeated applications made by the Bohemians, Poles, and Hungarians, to have their respective languages exclusively used in public business, and in the provincial schools.

As every province forms a separate land, each has its peculiar language or dialect, and its distinguishing customs and habits. Of the Slavonic languages, the Polish possesses the richest literature; but the Bohemian has of late years been most cultivated, and forms the written language of the Moravians and Slovaks of the NW. counties of Hungary. The dialect of Carniola has been methodised, and is grammatically taught as the written language of Illyria and Croatia. The Slavonian nations have all the distinguishing characteristics of ardent feeling and sanguine temperament which make them more easily elated and sooner depressed than their neighbours the Germans. They are fond of music; and every district has its national airs, which are often of great antiquity, and usually plaintive. Among the Slavonians, the Poles are distinguished by a martial disposition and love of show. The national costume is now only kept up amongst the peasantry, whose winter dresses especially are tasteful, and even elegant. In the other Slavonic nations of the empire, the love of ornament is less remarkable, the national spirit having sunk in the long lapse of time during which they have been dependent. No Slavonic dialect was used previously to the late changes, in the courts of justice or in public instruction in the high schools of the empire. The German peasants wear the dress commonly met with all over Germany, with varieties in the colour and headgear, in nearly every village. The Austrian women wear caps or bonnets made of gold lace and decorated with spangles. In Tyrol the German costume is most picturesque. The German language is used in transacting public business in the German and

Slavonian provinces, and in the universities on the north side of the Alps.

The Magyars, or inhabitants of the Hungarian plains, of Tartar descent, are a high-spirited people, warmly attached to their national language, habits, and rights. Though inferior in point of numbers, they have been the ruling race in Hungary and its subordinate countries for nearly 900 years. They have sometimes been compared to the Normans in England; but they have not, like the latter, intermixed with the subjugated people, and become identified with them. On the contrary, the Magyars continue to be almost as much separated from the other inhabitants as when they first established themselves in the country, towards the close of the 10th century. Their costume is the most splendid in Europe, and every family has its distinguishing colours. The rich *Dollmann*, or Hussar jacket, and the tasteful *Attila*, a frock-coat, trimmed with fur, are only worn on state occasions by the nobles; but the tight pantaloons and short boot is the usual dress of the peasant, who also wears a blue jacket and a low broad-brimmed hat. Though fond of music the Hungarians are no musicians; the national dances are often highly pantomimic; and the Magyar, who is seldom seen to smile, expresses the excitement of his feelings, whether in joy or sorrow, in dancing. The Magyar and Latin languages are those used in the courts of justice and in the public offices; and the law passed by the Hungarian Diet, in 1844, to force the use of the former on the Slavonian provinces incorporated with Hungary, has helped in no ordinary degree to exasperate the existing animosities between the Magyars and the Slavonians. The dress of the Walachian peasantry, on festive occasions, is highly ornamented. The Italian costume is both rich and elegant; especially the head-dresses of the women, which are more tasteful than those worn on the north side of the Alps. The Italian language is used in the government offices, in the courts of justice, and in public instruction, in the still remaining Italian provinces of the empire.

The Roman Catholic peasantry in every province have a religious turn, which they not only evince by their regular attendance at Church, but by assembling in great numbers, at stated periods, for the annual pilgrimages made to the churches of the Virgin Mary. The chief of these places of resort, Maria Zell in Styria, is annually visited by more than 100,000 devotees. The next in importance is the shrine at Calvaria in Galicia, to which pilgrims annually flock from Bohemia, Silesia, Poland, and Hungary. The pilgrimages are, however, said to be, like the field 'preachings' formerly held in Scotland, anything but conducive to morality. The Sunday evening is everywhere devoted to festive enjoyment, and to indulgence in wine in such provinces as produce this beverage. Smoking is an all but universal habit in the provinces north of the Alps.

With respect to the comforts of life, the Hungarian, Italian, and German peasants are the most advantageously situated. The largest share of landed property falls to the Hungarian, and he receives the best remuneration for his labour. Bohemia and Moravia rank on a level with the German provinces. The Galician peasant is the lowest on the scale except the Dalmatian.

Provision for the Poor.—Each parish is bound to support its own poor; but as the allowance is, in all cases, very small, the charge is nowhere burdensome. The large towns have poor-houses, supported partly by revenues from foundations, partly by voluntary contributions; and, on extraordinary occasions, government supplies a sum

from the public revenues to meet their exigencies. Savings' banks have been introduced into the different provinces.

Among the institutions for ameliorating the state of the poor, the hospitals stand in the first rank. The exertions of Joseph II., to improve the medical department of the army, had a very advantageous influence over the medical establishments throughout the empire. In the *Allgemeines Krankenhaus*, at Vienna, one of the finest hospitals in Europe, about 10,000 pauper patients are annually supported and relieved; and similar establishments are found in every provincial town of importance. The numerous hospitals of the 'Brothers of Charity,' in the various provinces, likewise relieve a vast number of the poor. These hospitals are supported by voluntary contributions.

Literature and the Fine Arts.—Newspapers and periodical publications are published in many languages. According to official returns of the year 1863, there were at that time 362 journals issued in Austria, among them 134 political ones. Of these 80 were German, 6 Czechish, 4 Polish, 2 Servian, 2 Croatian, 1 Illyrian, 2 Ruthenian, 13 Italian, 16 Hungarian, 3 Rumanian, 2 Greek, 1 Slavonian, 2 Hebrew, and 1 French. The non-political papers comprise 190 German, 13 Czechish, 14 Polish, 7 Servian, 4 Slavonic, 6 Croatian, 28 Italian, 57 Hungarian, 2 Ruthenian, 1 Greek, 1 French, and 2 Hebrew. At Vienna alone there were 68 periodical publications, including 15 newspapers, devoted to political matters.

The fine arts are in a languishing state, in part owing to the apathy which prevails both amongst the higher classes and the artists. The pictures in the Imperial Gallery at Vienna are not permitted to be copied by artists; and every composition which is publicly exhibited is subjected to censorship, for the enforcement of moral and religious restrictions. Recently there have been annual exhibitions at Vienna. Music is cultivated with success, and enters largely into the education of all classes in Bohemia and in the German provinces. The Bohemians are remarkable for their skill in instrumental music; and not only is it common to find eminent performers in small villages, but many of these excel on two or three different instruments.

Education.—The foundation of elementary instruction in Austria was first laid in the early part of last century; and soon after about one in twenty-five of the inhabitants were taught to read. Joseph II. directed his energies to the instruction of youth; but the clergy, high and low, opposed him, and after his death succeeded in establishing generally their own plan of educating children. By the terms of a law passed in 1821, it is enacted that no town or village shall be without an elementary school—that no male shall enter the marriage state who is not able to read, write, and understand casting up accounts—that no master of any trade shall, without paying a heavy penalty, employ workmen who are not able to read and write—and that small books of moral tendency shall be published and distributed, at the lowest possible price, to all the emperor's subjects. But this law, which in reality amounts to compulsory education, is far from being enforced. The German-speaking population of the empire is most advanced in general education; and least the people of the provinces of Slavonia, Croatia, and Dalmatia. At the conscription of 1857, it was found that of 2,649 recruits in the archduchy of Austria, 2,323 were able to read and write; while in Bohemia there were among 11,213 recruits only 6,597 able to read and write; and

finally, in Dalmatia, among 928 conscripts, only 9 were possessed of the rudiments of education.

The total number of educational establishments, of teachers, and of students was as follows, in 1861:—

	Number of Establishments	Number of Students
Superior Institutions	255	23,128
Middle Schools . .	442	72,646
Military Schools	53	7,075
Other Schools:		
For Boys . . .	147	11,334
" Girls . . .	408	23,463
Mixed . . .	37	1,596
National Schools .	47,270	3,593,304
Total . . .	48,615	3,732,962

Elementary instruction is not, perhaps, so much diffused in Hungary and Transylvania as in the majority of the other provinces of the empire. But there is, notwithstanding, scarcely a village in the kingdom without one or more schools. 'Where,' says a traveller, 'the inhabitants are all of one religion, there are no difficulties to be overcome. Where differences exist, if the separate creeds be too poor to maintain a school each, the poorer attend that of the more powerful, which is commonly Catholic; the Protestant children, however, not being forced to take a part in the religious instruction, which is left to the priest, or, still more commonly, to his *capellan*, or clerk. The education extends to reading, writing, arithmetic, moral maxims, and sometimes a little geography, history, and Latin grammar. These schools are maintained, and the masters chosen, by the peasants themselves; the landlord being obliged to give ground for a school-house, and 30 or 40 acres of land for the use of the master. The payment is for the most part in kind and labour. There are normal schools in different parts of the country, for the education of masters in the national schools. (Paget, Travels in Hungary, ii. 535.)

The machinery for the teaching of the higher branches of education is very complete. The University of Pesth is one of the richest in Europe, its revenues amounting to above 34,000*l.* a year. It has, exclusive of several more, nine theological, six juridical, thirteen medical, and fourteen philosophical professors, with libraries and museums, and is attended by above 1,000 students, comprising all religious denominations. There are eight universities in the empire, at Vienna, Prague, Pesth, Gratz, Cracow, Innspruck, Lemberg, and Padua. The number of students attending these universities amounted, in 1860, to 8,256, about one-fourth of which number were at Vienna. Next in rank to the universities stand the theological seminaries, 129 in number, with 4,051 pupils; and the Polytechnic schools, seven in number, with 2,672 pupils.

Army and Navy.—The army is raised in all the provinces, with the exception of Hungary and Transylvania, by conscription, from which, however, the families of the nobility and titled gentry, or so-called *Kleiner Adel*, are exempted. With the exception of these privileged classes, every man is liable to conscription who has reached his twentieth year. In times of peace, the government undertakes to furnish substitutes, at the average price of 1,200 florins, or 12*l.* each. The term of service is eight years, after which the soldier is liable to serve two years longer in the army of reserve. During peace, a large proportion of the troops are sent home regularly on

farlough. It is part of the military policy of the government to encourage, by all possible means, the re-enlistment of old soldiers, for which purpose the fund contributed by those who seek substitutes is distributed in the shape of bounties. The pay of the troops, privates as well as officers, is smaller in the Austrian army than that of any other country in Europe, except Russia. The infantry are dressed in white coats, of coarse but comfortable cloth, with light blue trousers, the Hungarian regiments being distinguished by their national light pantaloons. The cavalry wear the national dresses peculiar to their several descriptions of arms. Hungary furnishes the hussars, and Galicia the lancer regiments; the Italian, Slavonic, and German cavalry regiments wear white uniforms with helmets. The men are usually taken from the provinces in which each regiment has its conscription *dépôt*; but the officers are mixed throughout the army, and their promotion is seldom confined to one regiment. The finest men of each infantry regiment are selected to form the grenadier companies, usually in garrison at Vienna, Pesth, and Prague. The troops are well clothed and fed; and though an annual drain of the strongest and healthiest part of the population must be felt by the community at large, the conscription is not regarded as a hardship by the poorer classes. In Hungary the case is different; the regiments of that country are raised by recruiting, and the men are usually seduced by the promise of being placed in the hussar regiments; but in general the Hungarian peasants are averse from the service, though they make excellent soldiers. Though it is permitted to find substitutes, the conscription too often includes persons of education, who, being unable to purchase their exemption, are cut off from all hopes of advancement, as no promotion, except in the artillery, is made from the ranks. The colonel-in-chief of each regiment names and promotes the officers up to the rank of captain. The field-officers are nominated by the emperor, and usually advance according to seniority. A large proportion of the officers are noblemen. In 1861 there were 108 princes, 590 counts, 898 barons, 570 knights, and 2,826 untitled nobles in the army; the largest number proportionately in the cavalry, and the smallest in the artillery and the engineers. The upper hierarchy consisted, in 1864, of 8 field-marshal, 14 *feldzeugmeister* and generals of cavalry, 77 field-marshal lieutenants, 125 general-majors, in active service, besides 337 field-marshal lieutenants and generals on half-pay.

According to official returns, Austria possessed, on the peace-footing, at the end of October 1863, an army of 269,103 men, rank and file, with 42,201 horses. The papers furnished by the war office to the *reichsrath* describe the troops of the empire as constituted in the following manner:—

36 regiments of infantry of the line, each of 3 battalions, with 6 companies	124,590
1 regiment of <i>Kaiserjäger</i> , of 8 battalions, with 4 companies	3,974
23 battalions of <i>Feldjäger</i> , of 6 companies each	23,200
14 regiments of frontier infantry	8,640
10 companies of 'sanitary troops'	1,914
Total of infantry	162,318
12 regiments of cuirassiers, of 6 squadrons each	11,376
2 " of dragoons, of 6 squadrons "	3,120
24 " of hussars and uhlars of 6 squadrons	23,400
3 " of volunteer hussars and uhlars, 8 squadrons	2,448
Total of cavalry	40,344

12 regiments of field-artillery, of 10 batteries, with 4 companies	32,875
1 regiment of coast-artillery, of 8 batteries, with 4 companies	
1 regiment of raketours, of 12 batteries, with 3 companies	
2 regiments of engineers, of 4 battalions	5,998
6 battalions of pioneers	3,707

The rest of the army of 269,103 men, on the peace-footing, according to the government tables, consists of the transport service.

On the war-footing, the infantry is raised to 442,003 men, the cavalry to 57,759, and the artillery to 54,881 men, with a corresponding increase of engineers and pioneers.

The navy of Austria consisted, in August 1864, of thirty-nine steamers, with 639 guns and 11,730 horse-power, and twenty-sailing vessels with 145 guns, manned by 13,991 sailors and marines.

Rise and Increase of the Empire.—The House of Austria derives its origin and the foundations of its power from Rodolph, count of Hapsburgh, in Switzerland. Rodolph, who was one of the ablest princes of his age, having extended his authority over the greater part of Switzerland, and distinguished himself by his ability and bravery, was raised in 1273 to the imperial throne. His elevation was owing principally to the wish of the electors to have an emperor of undoubted ability, capable of putting down the anarchy that had long prevailed in the greater part of the states included within the limits of the empire, and who, at the same time, was not powerful enough to occasion any fear of his subverting the privileges of the different states. The family of the ancient dukes of Austria, of the House of Bamberg, having become extinct a short while previously to the elevation of Rodolph, their states were taken possession of by Ottocar, king of Bohemia, whose ascendancy threatened the independence of the empire. But Rodolph, having secured the sanction of the diet, declared war against Ottocar, whose forces were totally defeated, and himself killed, in the decisive battle of Marchfeld, in 1278. This formidable competitor being removed, Rodolph had little difficulty in procuring from the diet the investiture of the duchy in favour of his eldest son, and it has ever since continued in the possession of his descendants, and formed one of the principal sources of their power.

Albert, the son of Rodolph, did not inherit the talents of his father. The Swiss revolted from his dominion in 1307, and after a lengthened contest achieved their independence. But notwithstanding this event, and the elevation of several princes of other families to the imperial throne, the power of the House of Austria rapidly increased, and in no very long time its dominions embraced some of the largest and most important countries of Europe. It has been principally indebted for its extraordinary aggrandisement to fortunate alliances. The marriage, in 1477, of Maximilian, son of the emperor Frederick III., with the daughter and heiress of Charles the Bold, the last duke of Burgundy, brought to the House of Austria all the rich inheritance of the latter in the Low Countries, Franche Comté and Artois. Another marriage opened to the House of Austria the succession to the Spanish monarchy, including its vast possessions in Italy and the New World. And Ferdinand I., having married, in 1521, Anne, sister of Louis, king of Hungary and Bohemia, succeeded, on the death of the latter at the battle of Mohacz in 1526, to these states. There is, therefore, as much of truth as of point in the lines,

"Bella gerant alii, tu, felix Austria, nube;
Nam quæ Mars alii, dat tibi regna Venus."

Charles V., the most powerful monarch of the House of Austria, concluded, in 1521, a treaty with his brother Ferdinand, by which he assigned to him the hereditary possessions of the family in Germany. And there can be little doubt that this arrangement was for the advantage of both branches of the house—that of Austria, properly so called, and that of Spain.

The great power and ambition of the princes of the House of Austria excited a well-founded alarm among the other European powers. For a lengthened period the whole politics of Europe, its alliances, and its wars, had little other object than the humbling of the power of Austria. This was the motive of the thirty years' war, terminated by the treaty of Westphalia, in 1648, which secured the independence of the different states of the Germanic empire, and the free exercise of the Protestant religion.

In 1699 the Turks were finally expelled from Hungary; and the genius of Prince Eugene gave the Austrians an ascendancy over the Ottomans they have ever since preserved.

In 1740, the male line of the House of Hapsburg terminated by the death of the emperor Charles VI. But his daughter, Maria Theresa, married to Francis of Lorraine, grand duke of Tuscany, succeeded to his dominions, and, eventually, to the imperial crown. Shortly after her accession, Frederick the Great, king of Prussia, seized upon the greater part of Silesia. The recovery of this province was the principal object of Austria and her allies in the seven years' war. But his Prussian majesty triumphed over all his enemies, and Silesia was finally ceded to Prussia, by the treaty of Hubertsberg, in 1763.

The reign of Joseph II., the son and successor of Maria Theresa, is important from the reforms he effected in most departments of the government, and the territories he added to the empire. It has been objected to the former that they were not introduced with sufficient caution, and that he would have accomplished more had he attempted less. No doubt, it must be admitted that he did not make sufficient allowance for the inveteracy of ancient prejudices, and that his innovations were frequently neither appreciated nor approved by those for whose benefit they were intended; but there can be no doubt as to the rectitude of his intentions; and, notwithstanding the obstacles he experienced, his reforms, and the change he introduced into the mode of government, have been productive of the greatest advantage. He acquired Galicia from Poland, and the Bukowine from Turkey.

It would be unnecessary, even if our limits admitted of it, to attempt any sketch of the fluctuations of Austrian power during the eventful period that has elapsed since the breaking out of the French revolution, in 1789. At certain stages of her great struggle with France, Austria seemed to be depressed almost to the rank of a secondary power. But the ambition of Napoleon having effected his downfall, Austria was left at the end of the contest as powerful as ever; the loss of the Low Countries being fully compensated by her acquisitions in Italy, a portion of which, however, was again detached by the war of 1859, followed by the peace of Zurich.

The subjoined tabular statement shows the area of the Austrian empire at different periods since the death of the empress Maria Theresa, in 1780:—

Periods	Provinces	Austrian Square Miles		English Square Miles
1780	Austrian District	—	1,766-92	27,105
	Swabian District	—	149-50	8,140
	Burgundian District	—	479-00	10,068
	Falkenstein District	—	2-00	42
	Bohemia	—	902-88	18,960
	Moravia	—	386-25	8,112
	Silesia	—	89-45	1,879
	Eastern Galicia	—	1,420-50	29,531
	Bucovina	—	181-69	8,615
	Milan, Mantua, Castiglione, and Sabionetta	—	124-80	2,617
	Hungary	—	2,627-13	76,170
	Croatia and Slavonia	—	329-00	6,909
	Transylvania	—	954-27	20,039
	Military Frontier	—	682-00	14,222
	Total in 1780	—	11,095-20	232,999
	Subsequent Alterations			
1782	Acquired by Emperor Joseph II., by Treaty, in the Inn District	4-00	—	—
1791	Acquired by Emperor Leopold, in Alt-Ostrowa and Unna District	1-60	—	—
	Total at the beginning of the Reign of Emperor Francis I., March 1792	—	11,100-80	233,117
1795	Acquired by the Third Division of Poland (Western Galicia)	883-40	—	—
1797	(Peace of Campo Formio), by which Austria ceded Belgium, Lombardy, and Breisgau	645-00	—	—
	And received in return Venice, Istria, Dalmatia, and Albania	643-00	—	—
	Total in 1797	—	11,982-20	251,636
1801	(Peace of Lunéville) ceded Etach, Falkenstein, and Frickthal	23-00	—	—
1803	Ceded Ortenau	8-00	—	—
		41-00	—	—
	Acquired, Trient and Brixen	89-00	—	—
1804	Bought, Blumeneck, Lindau, and Rothenfels	10-50	—	—
	Total at the Assumption of the Title of Emperor of Austria on the 11th August, 1804	—	12,040-70	252,855

Periods	Provinces	Austrian Square Miles		English Square Miles
1805	(Peace of Presburg), ceded Venice, Venet.-Istria, Dalmatia, Albania, Tyrol, and Vorarlberg, and all Possessions in Suabia	1,196'60	—	—
	Acquired, Salzburg, Berchtesgaden, Matrei-Ziller, and Brixenthal	186'52	—	—
1807	(Treaty of Fontainebleau), ceded Monfalcone	6'94	—	—
	Total in 1807	—	11,028'68	231,497
1809	(Peace of Vienna), ceded Salzburg, Berchtesgaden, Matrei-Ziller and Brixenthal, Inn, and Half District of Hansruck, Villach, Carniola, Görz, Gradisca, Aust.-Istria, Trieste, Fiume, Half of Croatia, Western Galicia, and Zamosk	1,851'45	—	—
1810	(Treaty with Russia), ceded Tarnopol and Czortkow	180'17	—	—
	Total in 1810	—	9,042'06	189,883
1814	(Treaty of Paris, June 3), recovered North Tyrol and Vorarlberg	213'91	—	—
1815	(Vienna Congress), acquired and recovered Lombardo-Venetian Kingdom, Görz, Gradisca, Trieste, the Whole of Istria, Dalmatia, Ragusa, Venet.-Albania, Carniola, Fiume, Croatia, South Tyrol, Malrei-Thal, Villach, Tarnopol, and Czortkow	2,116'72	—	—
	Total in 1815	—	11,372'69	238,827
1816	(Treaty of Munich, April 14), recovered Salzburg, Inn, Half of Hansruck, Ziller, and Brixenthal	212'02	—	—
1835	Total at Accession of Emperor Ferdinand I.	—	11,584'71	243,279
1846	(Treaty with Russia and Prussia), incorporated Cracow and District	21'23	—	—
1848	Total at Accession of Emperor Francis Joseph I.	—	11,606'04	243,727
1859	(Peace of Zurich), ceded the greatest part of Lombardy	853'16	—	—
	Total in 1859	—	11,252'68	236,311

In 1804, Francis assumed the title of hereditary emperor of Austria; and on the 6th of August, 1806, he renounced the title of emperor of Germany. This latter event had been preceded by the formation of the confederation of the Rhine, and the entire dissolution of the old Germanic Empire.

AUTUN, a city of France, dep. Saone et Loire, on the Arroux, 43 m. SW. Dijon, on the railway from Dijon to Nevers. Pop. 11,897 in 1861. It is picturesquely situated, partly on the declivity and partly on the top and at the bottom of a hill. It is neither handsome nor regular; most part of its edifices are old, and have a mean appearance; but there are several among them well worth notice. It has two cathedrals, situated on the summit of the hill; but neither has been completed. The spire of one of them, 825 ft. in height, is remarkable for its elegance and the lightness of its construction. The church of St. Martin, built by Queen Brunehault, and containing her tomb, furnishes specimens of different kinds of architecture. The *champ de Mars*, in the middle of the town, a spacious square elevated on a terrace, and planted with trees, affords an agreeable promenade. The square of the cathedral has a magnificent fountain. There are two bridges over the Arroux, one of which is said to be built on the foundations of a Roman bridge. Autun is the seat of a bishop, of tribunals of original jurisdiction, and of commerce; and has a college, a diocesan seminary, a cabinet of antiquities and natural history, a collection of pictures, two small libraries, and a theatre. It has also manufactures of cotton velvet, of a sort of stuff described as *tapis de pied*, dits

marchaux, fitted for coverlets, horse cloths, &c., with hosiery, and tanneries. There is a coal mine at the hamlet of Chambois, within about a league of the town.

This is one of the most ancient cities of France. It was originally called *Bibracte*, and is described by Cæsar as by far the greatest and wealthiest town (*longe maximo ac copiosissimo*) of the *Ædui*. (De Bello Gall. lib. i. § 28.) Having been made a Roman colony by Augustus, it took the name of *Augustodunum* from that emperor, and *dun*, a Celtic term for a hill. Subsequently it was called *Flavia Æduorum*. The Burgundians took it in 427; and it was afterwards sacked and burned by the Saracens, and latterly by the English, in 1379. It espoused the party of the League, and suffered much during the religious wars. It still possesses many fine remains of antiquity. Of these the most celebrated is the triumphal arch, called the gate of Arroux, of large dimensions, and which, though built without cement, is in exceeding fine preservation; a smaller triumphal arch; the ruins of an amphitheatre, of a Roman burying-ground, of the temple of Janus, built by Drusus, and of a temple of Minerva, with many *bas reliefs*, medals, and utensils. The ancient city was much more considerable than the modern one. The walls may still be traced, and are so solidly built as to be almost like rock.

Tacitus mentions (Annal. lib. iii. § 48) that the noble youth of Gaul resorted for instruction to Augustodunum. Eumenes, the rhetorician, who was born here about the year 261, states in his oration (Pro Restaurandis Scholis, § 20), that representations, or maps, of the different countries of the then known world were delineated on the

porticos or places where the youth met, setting forth their names, situations, the rise and course of their rivers, the outline of their coasts, &c.; and it is worthy of remark that some portion of this ancient delineation is said to have been recently discovered. (Encyc. des Gens du Monde, art. Antiquités d'Aulun.)

The Prince de Talleyrand, who afterwards played so many important parts in the political drama, was bishop of this town at the commencement of the revolution. The Abbé Roquette, whom Molière is said to have taken for a model, was also one of its bishops. This has given occasion for the following epigram:—

“Roquette dans son temps, Talleyrand, dans le nôtre,
Furent les évêques d'Aulun:
Tartuffe est le portrait de l'un;
Ah! si Molière eut connu l'autre!”

AUXERRE (an. *Autissiodurum*), a town of France, cap. dep. Yonne, on the left bank of that river, 95 m. SE. Paris, with which it is connected by railway. Pop. 15,081 in 1861. It is agreeably situated on a hill, and its environs are charming; but with the exception of the houses along the quay and the river's side, it is generally ill-built, with various crooked streets, and has a gloomy appearance. Principal public buildings, cathedral, one of the finest Gothic edifices in France; the church of St. Peter; the abbey of St. Germain; the bishop's palace; and the hotel of the prefect. A finely shaded promenade surrounds the town, and it is well supplied with water distributed from a public fountain. Auxerre was the seat of a bishopric which has been suppressed; it has tribunals of original jurisdiction and of commerce, a college (high school), a secondary ecclesiastical school, a model school, a society of agriculture, a botanical garden, a museum of antiquities, a public library with 24,000 vols. and 180 MSS., a handsome theatre, &c. It has manufactures of calicoes, woollen coverlets, hosiery and caps, hats, earthenware, violin strings, and wine casks. The wines produced in the environs are much esteemed, particularly those of *Migraine* and *Chainette*; and a considerable trade is carried on in them, and in casks, wood, and staves. The Yonne is navigable from a little above the town.

AUXONNE, a town of France, dép. Côte d'Or, cap. cant. on the left bank of the Saone, 18 m. ESE. Dijon. Pop. 7,103 in 1861. It ranks in the fourth class of fortified towns, being defended by works constructed by Vauban. It is well built, and the ramparts serve as pleasant promenades. There is a fine bridge across the Saone, with a levy pierced by twenty-three arches to give a passage to the water in inundations. Auxonne is the seat of a tribunal of commerce; and has a college, a school of artillery, a small public library, &c., with manufactures of cloth, serges, and muslins.

AVA (*Ang-wa*, a fish-pond, so called because one formerly stood there); the ancient and again the present cap. of the Birman empire, on the left bank of the Irrawadi, 160 m. SW. Bhamo, and above 800 m. N. Rangoon, lat. 21° 51' N., long. 95° 58' 10" E. Pop. under 80,000. (Wilson.) It consists of an outer and inner city, both fortified: the outer is 5½ m. in circuit, and is surrounded, except on the Irrawadi side, where there is scarcely any defence, by a brick wall 15 ft. high, and 1½ ft. thick; outside of which, on the S., is a deep, rapid, and unfordable torrent, the *Myit-tha*; on the W. a jungle and swamp; and on the E. the *Myit-rigé*, a rapid stream, 160 yards broad. The inner city is placed at the NE. angle of the former, and is surrounded by a better wall, 1 m. in circ., and has also some natural defences. The inner city is almost wholly occupied by the palace,

council-chamber, arsenal, and the dwellings of a few of the principal courtiers. Ava contains many temples, in one of which is a sitting image of Gaudama, 24 ft. in height, said to consist of a single block of marble; in another all oaths of consequence are administered, the breach of which is considered a heinous crime. The houses are generally mere huts thatched with grass: the markets are furnished with British, as well as Chinese and Lao manufactures; but for trade, wealth, and prosperity, this capital is very far beneath Bangkok, the cap. of Siam.

AVALLON (an. *Aballo*), a town of France, dep. Yonne, cap. arrond. on the Cousin, 25 m. SSE. Auxerre. Pop. 5,536 in 1861. It is beautifully situated on a granite rock, and commands, especially from the promenade of the *Petit Cours*, a fine view of the rich and well-cultivated valley of the Cousin. It is a handsome town, with good houses, and broad and well-kept streets. The front of the parish church, the hospital, the theatre, and the concert hall, deserve notice. It has a court of original jurisdiction, a commercial tribunal, and a college; with fabrics of cloth, paper, mustard, &c. The casks and other articles of *tonnellerie* are in high repute. The hills round the town produce excellent wine, of which it is the entrepôt; and it has also an extensive trade in corn, timber, staves, and casks.

Avallon is very old: it owes its foundation to a strong castle, every vestige of which has now disappeared, that once occupied the summit of the rock on which it is built.

AVEBURY, or ABURY, a parish and small village of England, co. Wilts, 5 m. W. Marlborough. Pop. 747 in 1851, and 725 in 1861. The parish contains the gigantic remains of what is usually considered to be a Celtic or Druidical temple. This singular and stupendous ruin is situated in a flat tract of country, and consists of a large circular space of ground, having on the outside a bank or mound of earth, the inner slope of which measures about 80 ft. in width: immediately within this bank is a broad and deep ditch; and along the inner edge of the latter stand the relics of a circle of vast upright stones, similar to those of Stonehenge, measuring from 15 to 17 ft. in height, about 40 ft. round, and estimated to weigh from 40 to 54 tons each. The diameter of this circle is about 1,400 ft.: when complete it contained 100 stones, 40 of which were standing in 1722, when Dr. Stukeley examined it; but in 1802 only 18 stones were left, and the number has since been still further reduced. Within this outer circle, or great temple, as it is sometimes called, were two smaller temples, each formed of two concentric circles of stones, having one a single stone in the centre, and the other a group of three stones. Some of the stones in the two inner temples are of a prodigious size. They are all of a siliceous grit, and are of the same species as those that accompany the great chalk formation that here crosses the kingdom.

In connexion with the circular stones, or temples, already noticed, were two avenues each above 1 m. in length, formed by double rows of vast upright stones. One of these led in a SE. direction to Overton, where, according to Stukeley, it terminated in a small elliptical temple of similar stones: the other, or W. avenue, terminated in a single stone. Stukeley supposes that the SE. avenue had, when perfect, 200, and the W. 203 stones; but of the former, which had 72 stones standing in 1772, only 16 are now left, and of the latter only 2.

The village of Avebury stands within the periphery of the great circle, or temple, and is in part

built of the stones with which it and the minor circles were composed, these having been blasted and broken to pieces, to serve for this and similar purposes.

Immediately S. from the great circle or temple at Avebury, dist. $\frac{1}{2}$ m., is the barrow, or artificial mound of earth, called Silbury-hill. This huge barrow covers, according to the measurement adopted by Sir R. C. Hoare, 5 acres and 80 perches of ground, being 2,027 ft. in circumference at the base: its diameter at the top is 120 ft., the sloping height of its side 316 ft., and its perpendicular height 170 ft. It is impossible to say for what purpose this immense mass of earth was heaped together; but it seems not unreasonable to conclude that it may have been in some way connected with the stone circles at Avebury. (Dr. Stukeley's volume on Avebury, published in 1743, and subsequently Sir R. C. Hoare's *Ancient Wiltshire*.)

However desirable, it does not appear very probable that any satisfactory explanation will ever be given of the purposes for which the singular structures described above were erected. All traces of their origin seem to be buried in impenetrable obscurity. The favourite theory is, that the structure at Avebury, as well as that of Stonehenge, were druidical temples, where the Druids, or priests of the ancient Britons, celebrated their sacred rites. But, notwithstanding the confidence with which this theory has been put forward, and the learning and ingenuity displayed in its support, it appears to be entirely destitute, not merely of proof, but even of any considerable degree of probability. Caesar, Lucan, Tacitus, and Pliny, the principal authorities with respect to the Druids, do not give the smallest countenance to the notion of their having constructed or made use of any such temples. Caesar (see *Bello Gallico*, lib. vi. s. 18) says that they retired at a certain period of the year *loco consecrato*; for which Grævius has proposed to read *lucos consecrato*: and this emendation is rendered probable by what is said by Lucan, Tacitus, and Pliny. The first says, in reference to the Druids,

— 'Nemora alta remotis
Incolitis lucis.' Lib. i. line 458.

Tacitus (*Annal*, lib. xiv. s. 30) tells us that the Romans, having taken Mona, or Anglesey, apparently the grand seat of the Druids, cut down their groves sacred to savage superstitions—*excisique luci, sacris superstitionibus sacri*. And Pliny (*Hist. Nat.* lib. xvi. s. 44), states that the Druids *roborum eligunt lucos, nec ulla sacra sine ea fronde conficiunt*. But no classic author makes the remotest allusion to the Druids using such extraordinary temples as those previously described. Hence, if any dependence be placed on ancient authority, it would seem that the seats of druid superstition were in the recesses of the forest—in places as remote as possible from Stonehenge, or even Avebury.

AVEIRO, a sea-port town of Portugal, prov. Beira, 84 m. NNW. Coimbra, on the S. shore of the estuary of the Vouga, lat. $40^{\circ} 38' 24''$ N., long. $8^{\circ} 37' 54''$ W. Pop. 4,918 in 1858. It is the seat of a bishopric and of a custom-house; and has a good deal of trade in salt, manufactured in the little islands in the bay; in sardines, of which there is an extensive fishery; and in wine, oranges, &c. It has a college, a hospital, a workhouse, and seven convents. The oysters on the adjoining coast are reckoned the best in Portugal. The entrance to the mouth of the river is pointed out by two stone pyramids, each seventy feet high, which, when brought into a line, show the course over the bar. The latter has about 15 feet at high-water springs, and $9\frac{1}{2}$ at low water do.: at neaps the

depths are respectively 12 and $7\frac{1}{2}$ feet. It is necessary, however, to observe, that the bar being of shifting sand, is liable to perpetual changes, and that it should never be attempted without the aid of a pilot. (Tofino, Spanish Pilot, Eng. trans., p. 97, &c.)

AVELGHEM, a town of Belgium, prov. W. Flanders, on the Scheldt, 9 m. ESE. Courtnay. Pop. 4,097 in 1856.

AVELLA (an. *Abella*), a town of Southern Italy, prov. Avellino, 5 m. NE. Nola, in a charming situation, commanding a view of Naples. Pop. 5,250 in 1861. It is celebrated by Virgil for its honey or its apples, it is not certain which:—

'Et quos *malifera* despectant moenia *Abellæ*.'
Æn. vii. 740.

But some MSS. read *melifera*.

AVELLINO (an. *Abellinum*), a town of Southern Italy, cap. of province of same name, on the declivity of a hill, in a fertile valley near the Sabato, 29 m. E. Naples. Pop. 13,285 in 1861. It is fortified, is the seat of a bishopric, of the civil and commercial courts for the prov., and has a royal college. It has a cathedral, three parish churches, a square adorned with an obelisk, a public granary; with manufactures of coarse cloth, paper, macaroni, sausages, whose superior excellence has long been admitted, and dyeing works. It is the entrepôt of the surrounding country, and has a pretty extensive trade. Chestnuts are gathered in large quantities in the environs, but hazel nuts are their most important product. The latter were greatly esteemed by the Romans, and were called by them *nucæ Avelanæ*.

Avellino is said by Swinburne to be 'a considerable city, extending a mile in length down the declivity of a hill, with ugly streets, but tolerable houses. The churches have nothing to recommend them, being crowded with monstrous ornaments in a barbarous style, which the Neapolitans seem to have borrowed from the Spaniards. The cathedral is a poor building, in a wretched situation, with little to attract the eye except some uncouth Latin distichs, and shapeless Gothic sculpture. Their only edifice of note is a public granary, of the composite order, adorned with antique statues, and a very elegant bronze one of Charles II., king of Spain, while a boy. The town abounds with provisions of every sort, and each street is supplied with wholesome water.' (Swinburne's *Two Sicilies*, vol. i. p. 111, 4to ed.) It has, however, been a good deal improved of late years; but the above is still a pretty fair representation of its general appearance.

AVENCHES, Germ. *Wiffliburg* (an. *Aventicum*), a town of Switzerland, in a portion of the canton de Vaud enclosed in that of Freiburg, 5 m. from Port Alban, on the Lake Neuchâtel, and $1\frac{1}{2}$ m. from the shore of Lake Morat. Pop. 1,766 in 1860. This town, now hardly worth notice, was formerly one of the most important in Switzerland. According to some authorities, it was built, and a Roman colony placed in it, by Vespasian; but others, with more probability, conjecture that it was only repaired and beautified by Vespasian, after being laid waste by Vitellius. The ancient walls enclose a space of more than 5 m. in circumference. It has some fine remains of antiquity, such as mosaical pavements, an amphitheatre, columns of white marble, an aqueduct, &c.; and its importance is known from several Roman milestones found in parts of the Pays de Vaud, being all numbered from Aventicum. Though now at a considerable distance from the lake, it was during the period of its prosperity upon its margin, the iron rings to which the boats were fastened being still visible.

AVENWELDE, a village of Prussia, prov. Westphalia, reg. Minden, about half-way between Bielefeld and Wiedenbrück. Pop. 1,495 in 1861. The inhabitants are chiefly engaged in linen manufactures.

AVERNO (LAKE OF), (an. *Avernus*), a famous lake in Southern Italy, about 10 m. W. Naples, near the sea. The lake occupies what there is good reason to think is the crater of an extinct volcano, and is everywhere surrounded by high hills, except where there is an outlet, by which it formerly communicated with the Lucrine lake. It is from $1\frac{1}{2}$ to $1\frac{3}{4}$ m. in circumference; the water clear, very deep, and well supplied with tench. During the early period of Roman history the hills round this lake were thickly covered with dense forests, which gave it a gloomy appearance, and by confining the mephitic vapours that rose from the volcanic soil, rendered the air extremely unhealthy. In consequence the place was early regarded with superstitious awe. The poets represented Avernus as sacred to the infernal gods, and as being, in fact, the entrance by which Ulysses and Æneas descended to the lower regions!

— 'fama est Acherontis ad undas
Pandere iter cæcas stagnante voragine fauces,
Laxat et horrendos aperit telluris hiatus,
Interdumque novo perturbat lumine manes.'

Sil. Italica, xii.

It was said that no bird could fly over the lake without being destroyed by its poisonous exhalations, and hence its name Avernus (*Ἀορρος*), without birds). This is noticed by Virgil, in some well-known lines (*Æn.* vi. 237).

But during the reign of Augustus, Agrippa dispelled the obscurity and sanctity that had so long encircled the Avernus. He cut down its groves; and having joined it to the Lucrine bay, he brought ships into its solitudes, and used it as a harbour in which to exercise galleys! The Lucrine lake, or rather bay, was almost entirely filled up by the subterranean eruption of Monte Nuovo, in 1538. On one side the lake of Averno are the remains of a large octagon temple, probably appropriated to the worship of Hecate; and opposite the temple, on the other side the lake, is the opening of the subterranean conduit usually called the grotto of the Sybil, but which was, in fact, a tunnel leading from the lake to the sea. The hills round the lake are now covered with gardens and vineyards, and retain none of that gloomy grandeur for which they were once so celebrated. They are still, however, at certain seasons unhealthy.

AVERSA, a town of Southern Italy, prov. Caserta, 9 m. N. Naples, and 11 m. E. from the Mediterranean. Pop. 18,518 in 1861. It is situated in a beautiful plain covered with vines and orange trees; is well built and well laid out; is the seat of a bishopric, said to be the richest in the kingdom; of a royal governor, and of a tribunal. It has nine churches and some convents; but it is principally distinguished by its founding hospital and its lunatic asylum. The former is said by Balbi, to be a nursery of artists and artisans for the entire kingdom. The latter is exceedingly well managed. The apartments are laid out and furnished so as to suit the state of the patients; and every method is resorted to, by amusement and exercise, to divert their attention. Those that are furious are of course separated from the others, and subjected, if need be, to the strait-jacket. This establishment has served as a model to others, at Reggio, Modena, and Palermo. A sort of almond-cake, called *torrone*, made here, is in great demand at Naples.

Aversa was built in 1030, by the Normans; but it was subsequently twice burnt down. Andrew,

of Hungary, husband to Joan I. queen of Naples, was murdered here in 1845.

AVESNES, a town of France, *dép.* du Nord, cap. arrond. and canton, on the greater Elpe, 10½ m. S. Maubeuge. Pop. 8,516 in 1861. It is a fortified place of the 4th class, its fortifications having been repaired by Vauban. It is the seat of a sub-prefect, and has a tribunal of original jurisdiction and of commerce, a commercial college, an hospital for old persons, and an agricultural society. It is ill built, and *triste*. The cathedral has a spire 800 ft. in height, which has five chimies of bells. It has manufactures of coarse serge, woollen hosiery, carpentry work, with tanneries, breweries, soap works, and distilleries. A particular kind of cheese produced here is known as 'Marolles.' Avesnes suffered severely from the explosion of a powder magazine, when besieged by the Prussians in 1815.

AVEYRON, a *dép.* of France, in the southern part of the country, being separated from the Mediterranean by the Herault; between 43° 41' 30" and 44° 55' 25" N. lat., and 1° 50' 15" and 3° 26' E. long. Area 882,171 hectares. Pop. 896,025 in 1861. This is one of the most mountainous *dépts.* of France. With the exception of some volcanic plateaux detached from the Plomb de Cantal, and which advance as far as the Truyere, all the other mountains belong to the chain of the Cévennes, the summit ridge of which forms its S. frontier. The mean elevation of the soil is very considerable, Rhodéz being 2,280 ft. above the level of the sea. The mountains are intersected by ravines, and have many subterranean caves. The soil of the plateaux and elevated grounds is generally very inferior; but that of the valleys is very fertile, and produces all sorts of corn. Principal rivers, Lot, Aveyron, whence the dep. takes its name, and Tarn. Agriculture is in a very backward state, in consequence partly of the unfruitful nature of the soil, partly of the long continuance of frosts and the frequent occurrence of hail-storms, but principally of the want of capital and poverty of the inhabitants. Field labour is mostly performed by oxen. Produce of corn sufficient for the consumption. Sheep numerous, and their wool, which is generally fine, estimated at 800,000 kilograms a year. A great number of cattle, horses, mules, and pigs are raised. In the district of Roquefort, where cheese is made from sheep's milk, and the district of Guyole, the dairy is an object of great attention. In some parts the farms are extensive, and the strictest gradation is preserved among the labourers attached. The latter eat little butcher's meat, and their food is very indifferent. Some wine is made, but the quality is inferior. According to the official tables, the soil of the *dép.* is mostly distributed as follows:—Cultivable land 865,000, meadows 122,000, vineyards 84,000, forests 84,000, and heaths, rocks, wastes, &c. 209,000 hectares. The export of agricultural produce reaches at an average 12,000,000 fr. a year, of which the cheese of Roquefort and Guyole, sheep, and woollen stuffs, enter together for about one-fourth. The coal and iron mines of the Aveyron are among the most important in France. Iron-works have been established within the last thirty years, and they are now prosecuted with great spirit and success, and furnish employment to some thousands of workpeople. A good deal of copper is also produced. Manufacturing industry has made very considerable progress. About 20,000 workpeople are supposed to be employed in the manufacture of coarse woollen stuffs, hosiery, &c. In the arrondissement of St. Affrique about 900 hands are employed in the spinning and manufacture of cotton; and there are in the

dep. about 800 employed in the tanning and dressing of leather and the glove trade. There are also factories of hats and paper, with dye works, and coopers' works. Aveyron sent three members to the legislative assembly in 1864. Principal towns, Rhodéz, Milhau, St. Affrique, and Villefranche. The inhabitants are said to be much addicted to drinking and quarrelling; and as they all carry a knife, called a *capuchadou*, their quarrels sometimes end fatally.

AVEZZANO, a town of Southern Italy, prov. Aquila, in a fine plain, within about a mile from the NW. angle of the lake Fucino. Pop. 4,720 in 1861. It is surrounded by walls, which, however, are in a ruinous condition. The houses are generally mean, but there are some good buildings, among which a castle belonging to the Colonna family.

AVIGLIANA, a town of Northern Italy, prov. Turin, 15 m. W. Turin. Pop. 3,441 in 1861. It is finely situated on a hill, has a castle, fabrics of coarse cloth, and filatures of silk.

AVIGLIANO, a town of Southern Italy, prov. Potenza, cap. cant., 11 m. NNW. Potenza. Pop. 15,552 in 1861. It is built on the declivity of a hill, a part of which being undermined, in 1824, by continued rains, gave way, and destroyed a part of the town. It has a fine collegiate church, mundry convents, and a royal college. The surrounding country produces the finest oxen in Southern Italy.

AVIGNON (an. *Avenio*), a city of France, cap. dep. Vaucluse, on the left bank of the Rhone, 58 m. NNW. Marseilles; on the Paris-Mediterranean railway. Pop. 38,081 in 1861. It is the seat of an archbishopric, of a tribunal of original jurisdiction and of commerce, and has a royal college of the 2nd class, a primary normal school, a theological seminary, a school of design, a public library containing 80,000 volumes and 500 MSS., a museum of pictures, a botanical garden, with societies of arts and agriculture. Having been long the residence of the popes, Avignon was filled with churches, convents, and other religious houses, many of which have now fallen into decay. It is situated in a fine plain, and is surrounded by high walls, flanked with numerous towers. Its promenades along the walls, and its quays along the river, are both said to be very fine. The city was formerly much more populous and thriving than at present, and half the space now included within the walls is occupied with gardens, &c. The streets are narrow and crooked; and the houses and buildings have generally a gloomy, melancholy appearance. Mr. Inglis says, 'I never saw any town that I should not prefer to Avignon as a residence: its filthiness is disgusting, absolutely inconceivable to be found in a civilised country. And it is the less excusable as the town is well supplied with water.' (Switzerland, &c., p. 186.) This was some thirty years ago, and since then things have somewhat mended, although the ancient city is not yet famous for cleanliness. The ancient palace, occupied by the popes, stands on the declivity of the rock called *De Dona*. It is a Gothic building, constructed at different periods, of vast extent, with high, thick walls, and now serves as a prison, military dépôt, and barracks. The cathedral church of Notre Dame de Dons is very ancient, and contains the tombs of several distinguished persons. The church of the Cordeliers, of which only the spire now remains, contained the tomb of Laura, immortalised by Petrarch, and of the 'brave Crillon,' the friend of Henry IV., and one of the most chivalrous of French warriors. The Hôtel des Invalides, subsidiary to that of Paris, is an im-

mense building, in which 1,000 old soldiers are accommodated. The Hôtel Dieu is also on a large scale. The theatre, a large handsome edifice, was erected in 1824. Avignon communicates with the opposite bank of the river by two bridges, one of wood and one of boats. Since the opening of the railway from Paris to the Mediterranean, which has a station here, the trade of the city has greatly improved, and it has become the seat of several new manufactures. They consist principally of silk stuffs and velvets. There are also some woollen and cotton fabrics, with a cannon foundry, a type foundry, dye works, and tanneries. A good many works are printed in the town. Large quantities of madder are produced in the neighbouring country, and Avignon is the centre of the trade in that drug.

Avignon existed before the Roman invasion, and afterwards became a Roman colony. In 1305 Clement V. transferred thither the residence of the popes, who continued to reside here till 1377, when they returned to Rome; but two schismatical popes, or popes elected by the French cardinals, resided at Avignon till 1408. Clement VI. having acquired the property of the town and district, it continued to belong to the holy see; and though sometimes taken by the French, it was always restored, till 1791, when it was finally incorporated with France.

AVIGNONNET, a town of France, dép. Hante Garonne, near the canal of Languedoc, 10 m. NW. Castelnaudry. Pop. 2,590 in 1861. Here five inquisitors were put to death by the Albigeois in 1242. Raymond, Count of Toulouse, suspected of secretly instigating the crime, was condemned by Innocent III. to be stripped naked and whipped.

AVILA, a town of Spain, cap. prov. Avila, on the Adaja, 64 m. WNW. Madrid. Pop. 6,419 in 1857. It is the seat of a bishopric, and has a university, eight parish churches, and numerous convents and hospitals. Formerly it was richer and more flourishing than at present. It has still manufactures of cloth, cotton, hats, and silk.

AVILES, a town of Spain, Asturias, at the mouth of the river of the same name; 18 m. N. Oviedo. Pop. 3,297 in 1857. There is a beautiful stone bridge across the river. It has some manufactures of coarse cloth, and prepares boilers and other utensils made of the copper obtained from the neighbouring mines. It has very little trade, the water in the port being so shallow that it is hardly accessible even to coasters.

AVIS, a town of the Tyrol, near the Adige, 13 m. SSW. Roveredo. Pop. 3,530 in 1857. It has a castle, manufactures of silk and velvet, and a quarry of flints.

AVIZ, a town of Portugal, prov. Alentejo, 35 m. WSW. Portalegre. Pop. 1,530 in 1858. It is the chief place of the knights of the order de l'Avis, founded by Alphonso I. in 1146.

AVIZE, a town of France, dép. Marne, cap. canton, 6 m. SSE. Epemay. Pop. 1,874 in 1861. Its territory is celebrated for its vineyards, which produce large quantities of *Champagne mousseux* of the second quality. It has an extensive trade in wine.

AVOLA, or AULA, a sea-port town of Sicily, prov. Syracuse, 12 m. SW. Syracuse. Pop. 10,754 in 1861. The town is prettily and salubriously situated on a woody eminence, having a marine village on the beach, a tonnara, and a battery for defence; and from several respectable edifices, tolerable streets, and a good market-place, has an air of cleanliness and regularity. Besides the profits of the tonnara, the town has a considerable traffic in wine, corn, cheese, carubbas, almonds, oil, honey,

and fruit, and some in sugar, made from the only cane plantation now left on the island. The adjacent country abounds with game, and supplies pasturage to a great number of fine cattle, many of which are exported to Malta.

AVOLD (ST.), a town of France, dép. Moselle, cap. cant., on the Rosell, 18 m. W. Sarquemesines. Pop. 3,288 in 1861.

AVON, the name of several rivers in England, of which the most important are:—

1. The *Upper Avon*, has its source at Avon-Well, near Naseby, in Northamptonshire, about 300 ft. above the level of the sea. It flows generally in a SW. direction, but with a very winding course, passing successively the towns of Warwick, Stratford-on-Avon and Evesham, till it unites with the Severn at Tewkesbury. It has a large body of water; and is navigable by barges for about 40 m., or from the Severn to Stratford, where it is joined by the Stratford canal. Its entire course may be about 100 m.

2. The *Lower Avon*, has its sources contiguous to Malmesbury and Wootton-Basset, in Wiltshire, its two arms uniting near Great Somerford; it thence pursues a circular course, passing Chippenham, Bradford, Bath, and Bristol, falling into the Bristol Channel about 8 m. below Bristol. Owing to the great rise and fall of the tide, the largest class of merchantmen come up the river to Bristol. The Kennet and Avon canal, from Newbury to Bath, connects the Thames with the Avon, establishing a water communication across the kingdom.

3. The *Hampshire Avon*, rises near Devizes, on the N. side of Salisbury Plain. At Salisbury it is joined by the Wily and the Bourne; and is navigable from Trafalgar-house to where it falls into the English Channel at Christchurch.

There are some other rivers of this name in England, but none of them seem to be considerable enough to require any special notice. There are also three small rivers of this name in Scotland: one an affluent of the Spey, one of the Clyde, and another having its embouchure in the Frith of Forth, near Borrowstoness.

AVRANCHES (an. *Ingenu*), a town of France, dép. Manche, cap. arrondissement, on a hill near the Suez, 82 m. SSW. St. Lo, and 3 m. from the sea, on the railway from Argentan to Granville. Pop. 8,592 in 1861. This is a very old town. Its cathedral, consecrated in 1121, was unroofed during the revolution, and is now in ruins. In it, in 1172, Henry II., king of England, did penance and received absolution for the murder of Beckett. (Lytelton's Hist., Henry II., v. p. 123.) Avranches has a tribunal of original jurisdiction, a college, a workhouse, a theatre, and a public library, containing 10,000 volumes and 200 MSS., with manufactures of lace and blondes. Small vessels come up the river to the bridge opposite the town, but it has little trade.

AX, a town of France, dép. Ariège, cap. cant. on the river of that name, 20 m. SE. Foix. Pop. 1,679 in 1861. The situation of Ax is very picturesque and romantic. It derives distinction from its numerous hot mineral springs, the heat of the water of some of which approaches nearly to the boiling point. Their reputation is increasing, and with it the size and importance of the town, the latter being entirely dependent on the resort to the wells.

AXEL, a fortified town of the Netherlands, prov. Zealand, 21½ m. WNW. Antwerp. Pop. 2,531 in 1861.

AXMINSTER, a m. town of England, co. Devon, hund. Axminster, on the Axe, 147 m. WSW. London, 16 m. E. Exeter. The parish contains

6,590 acres, and 2,918 inhab., according to the census of 1861. It is irregularly built on the declivity of a small hill, has wide streets, and is clean and healthy. The church, a clumsy structure, is in part very ancient, and there is a free school where fourteen children are educated gratis. The inhab. are principally engaged in the manufacture of carpets, in imitation of those of Persia and Turkey, which are but little if at all inferior to the genuine fabrics.

AXUM, an ancient and much decayed town of Abyssinia, prov. Tigré, near one of the sources of the Mareb (*Astusaspes*), 110 m. SW. Arkeeko, on the Red Sea; lat. 14° 5' N., long. 38° 27½' E. The population is variously estimated at from six to ten thousand. It is situated in a nook formed by two hills; and is said by Mesera Combes and Tamisier, by whom it has been visited, to be the handsomest town of Tigré. The houses are of a cylindrical form, surmounted by a cone. In its centre is a Christian church, which seems to occupy the site of an ancient temple, described by Mr. Salt (Valentia's Travels, iii. 88); but the travellers referred to above say, that Salt's statements with respect to it are much exaggerated. According to them it is inferior even to *nos greniers ordinaires*; so that in this instance Bruce, who is accused by Salt of having undervalued the church, would seem to be the preferable authority. (Voyage en Abyssinie, i. 267.) Axum, however, would not be worth notice were it not for its ancient fame, and its antiquities. That it is very ancient is abundantly certain; and its former greatness is evinced by the ruins which still remain. Of these the most conspicuous is an obelisk 60 ft. in height (Salt says, in Lord Valentia's Travels, 80 ft.; but he afterwards rectified his mistake), formed of a single block of granite, crowned with a *patera*, and beautifully sculptured, though not with hieroglyphics. There are said to have been formerly above fifty obelisks in the city; but, except the one now noticed, the others are all prostrate.

It is known that a Greek kingdom was founded in Ethiopia, of which Axum was the capital, and gave its name to the country, some time after the Christian era. The Greek writers of the later ages used, in fact, to call the Ethiopians Axumites; and the Perilous of the Erythrean Sea affords authentic evidence of the existence of the independent kingdom of Axum, towards the end of the second century. Some light is thrown on this intricate subject by the discovery, at Axum, of an upright slab or stone, bearing an inscription, copied and translated by Mr. Salt. This remarkable monument records the result of a successful attack made by Aizanas, king of the Axumites, on some barbarous tribes. And it so happens that Aizanas was king of Abyssinia during the reign of the emperor Constantius, who addressed a letter to him anno 330. This, therefore, may fairly be concluded as the date of the inscription in question; but there is no evidence to show the era of the foundation of the Axumite kingdom, or how long it existed after the above date.

Adulis, situated at the bottom of Annesley Bay, on the Red Sea, was anciently the port of Axum, and a great mart for the commodities of Ethiopia, Egypt, Arabia, &c. It was the port whence Ethiopian slaves were shipped for all parts of the world. (Ancient Universal History, xviii. 329, 8vo. ed.)

AY, or AI, a town of France, dép. Marne, cap. cant. on a hill near the Marne, 15 m. S. Rheims. Pop. 3,418 in 1861. This town is famous for its wine, the best of the *vins mousseux* de Champagne. It is said by Jullien to be *fin, spiritueux, pétillant, délicat, et pourvu d'un joli bouquet*. (Topographie des Vignobles, p. 31.) Dr. Henderson says, that

'it is unquestionably an exquisite liquor, being lighter and sweeter than the Sillery, and accompanied by a delicate flavour and aroma, somewhat analogous to that of the pine-apple. That which merely creams on the surface (*demi mousseux*) is preferred to the full-frothing (*grand mousseux*) wine.' (History of Wines, p. 154).

AYAMONTE, a fortified town of Spain, prov. Seville, on the E. side of the embouchure of the Gaudiara, 25 m. W. of Huelva, lat. 37° 13' N., long. 7° 19' 15" W. Pop. 5,969 in 1857. It stands on the declivity of a hill, and has two parish churches, a foundling hospital, an almshouse, and some convents. The inhabitants are principally engaged in fishing; but some ship-building is also carried on, and lace, soap, and earthenware are manufactured.

AYLESBURY, a borough, m. town, and par. of England, co. Buckingham, hund. Aylesbury, on an eminence in the celebrated vale of the same name, 38 m. NW. London. 18½ SE. Buckingham. The borough includes an area of 3,200 acres, and a pop. of 6,168 in 1861. It is irregularly built, has a modern market-house, constructed after the model of the temple of the eight winds at Athens, and a handsome county-hall, in which the Lent assizes for the county are held: the county jail is also in the town, and here, too, the members for the county are nominated, and the return declared. The church is a large ancient structure, with a tower visible many miles round. The charities of Aylesbury are numerous and valuable. Among others there is a free school, for the support of which a considerable amount of property has been bequeathed, that furnishes education for about 130 boys; there are also a number of other charities, with almshouses, &c. Some lace is manufactured, and a number of the inhabitants of the town and its vicinity employ themselves in the breeding and fattening of ducks, of which large numbers are sent to the metropolis. Aylesbury has returned two m. to the H. of C. since 1554. Previously to 1804, the right of voting was in the inhab. of the borough paying scot and lot; but in consequence of the flagrant corruption of the electors, the privilege of voting for the members for the borough was then extended to the freeholders of the hund. of Aylesbury. The parl. borough had 27,090 inhab., according to the census of 1861, registered electors 1,304. The vale of Aylesbury is one of the richest tracts in the empire. It is principally appropriated to the fattening of cattle and dairying.

AYLESFORD, a village and par. of England, co. Kent, lathe Aylesford; the village being on the right bank of the Medway, which intersects the par., m. 30, SE. London. The par. contains 3,330 acres, and a pop. of 2,057 in 1861. The church, a handsome building, is situated on an eminence higher than the roofs of the houses in the village. There is a bridge over the Medway, and an almshouse, endowed in 1605. Near the town was a Carmelite monastery, granted at the dissolution of the monasteries, by Henry VIII., to Sir Thomas Wyatt; from whom it has descended to the Finch family, now earls of Aylesford, who have modernised the building, and made it a comfortable residence. But the most remarkable monument in the vicinity of Aylesford is *Kitecoty House*, about 1 m. NE. from the village. It consists of three large upright stones, each about 8 ft. in height, with another lying on the top, 11 ft. in length by 8 in breadth, and 2 thick; and there are some similar stones in the vicinity. Antiquarians differ widely in opinion as to the object of this singular structure; but the more common opinion seems to be that it was intended as a monument to Catigern, a British chief killed in a

battle, circa A.D. 455, with the Saxons under Hengist and Horsa. (Hasted's Kent, 8vo. ed. vol. iv.; Turner's Anglo-Saxons, book iii. cap. 50.)

AYR, a marit. co. of Scotland, on its W. coast, stretching for about 75 m. along the shores of the Irish Sea and the Frith of Clyde, having N. the co. of Renfrew, E. Lanark and Dumfries, SE. Kirkcudbright and S. Wigtown. It contains 650,156 acres, of which nearly a half is supposed to be arable. It is divided into the three districts of Carrick, Kyle, and Cunningham. The first, which comprises the county to the S. of the river Doon, is for the most part moorish, wild, and mountainous. Kyle, the middle district, lying between the Doon on the S. and the Irvine on the N., possesses a large extent of low, well-cultivated land along the shore; but the E. part is hilly and mountainous. Cunningham, though the smallest of the districts, is the most populous, best cultivated, and richest. Climate moist and mild. Agriculture, down to the close of the American war, was, speaking generally, execrable; but it has been prodigiously improved in the interval, and especially during the last ten or dozen years. The whole co. is now intersected with good roads, and is well fenced and subdivided. Drainage, the most important of all improvements, has been prosecuted to a great extent; and the practice of *furrow draining* is carried on with extraordinary zeal and the most perfect success. Improved rotations have been everywhere introduced; and lands that formerly only produced poor crops of black oats, now carry heavy crops of wheat and barley. The Ayrshire cow is particularly fitted for the dairy, which is extensively carried on, chiefly in Cunningham, the original country of the Dunlop cheese. Farm-houses and offices, formerly mean and wretched, now, for the most part, extensive and commodious. The old valued rent was 15,967*l.*, the new valuation for 1864-5 amounted to 762,661*l.*, exclusive of railways rated at 113,777*l.* Coal is found in several parts, and is extensively wrought and exported. Iron is made at Muirkirk, Glengarnock, and other places. The woollen manufacture is carried on extensively at Kilmarnock; and cotton mills have been erected at Catrine. Principal towns, Kilmarnock, Ayr, Maybole, and Irvine. Ayr contains forty-six parishes. It had, in 1801, a population of 84,207; in 1821, of 127,299; in 1841, of 164,356; and in 1861, of 198,971. Of the pop. in 1861, there were males 96,994, and females 101,977. It sends two m. to the H. of C.; for the co., and the boroughs of Kilmarnock, Ayr, and Irvine are associated with others in the election of representatives. Parl. constituency 4,642 in 1864. (Census of Scotland, 1861; Oliver and Boyd, Edinb. Almanack, 1865; New Statistical Account of Scotland; Robertson's Rural Recollections.)

AYR, a sea-port, royal borough, and m. town of Scotland, cap. Ayrshire, on the S. side of the river Ayr, at its confluence with the sea. 65 m. SW. Edinburgh, and 30 m. SSW. Glasgow. The pop. of the burgh and parish amounted, in 1861, to 19,659, of which 9,094 males, and 10,565 females. The number of families, in 1861, was 4,502, and of inhabited houses 2,281. Ayr is finely situated on the margin of a broad level plain, and has recently been much improved and enlarged. The county buildings, containing a county hall, with apartments for the judiciary court, &c., and town's buildings, containing a news-room, and rooms for dinners, balls, assemblies, &c., are both on a large scale: to the latter is attached a fine spire, 226 ft. in height. The Wallace Tower, erected a few years ago, on the site of an old building of the same name, is 115 ft. high. A statue of Sir

William Wallace, by Thom, has been placed in a niche in its front; but the artist has not been so happy in this instance as in his statues of Tam O'Shanter and Souter Johnnie. There is an old and a new church, but neither is remarkable. The academy is a plain building, in a good situation: and no inconsiderable part of the late improvement of the town may be ascribed to the well-merited reputation of its teachers, which has attracted a great number of families. Ayr is a very ancient burgh. It was chartered in 1202; and parliaments have been frequently held in it. It is the seat of a synod and presbytery; of a justiciary and sheriff's court; has a good town's library, and a mechanic's institute; a theatre; and several charitable institutions. About 1,000 hand-loomers are employed in the weaving of cotton for the Glasgow manufacturers; and there is an extensive foundry, with two tan-works and a flourishing carpet-manufactory. The total shipping, in the year 1863, consisted of 430 British vessels, of 32,992 tons, and 18 foreign vessels, of 2,036 tons, which entered the port. The port, at the mouth of the river, is formed by two piers, which project a considerable way into the sea; but it labours under a deficiency of water, not having more than 5 ft. water over the bar at ebb-tide, nor above 15 ft. at high water springs; and is exposed to the W. gales, which throw in a very heavy sea. This defect has, however, been in part obviated by the construction of a breakwater, which it is proposed to enlarge. The annual value of real property, in 1864-5, was 45,370*l.*, exclusive of railways. A railway connects Ayr with Glasgow, Kilmarnock, and all the chief towns of Great Britain. Ayr is joined with Campbelton, Inverary, Irvine, and Oban, in the return of a member to the H. of C. The parish, according to the Ordnance Survey, contains an area of 7,139 acres, and the parl. constituency in 1864 was 673, the municipal 448. The corporation revenue for 1864-5 amounted to 2,646*l.* The cottage in which Robert Burns was born, with Alloway Kirk, are in the immediate vicinity of Ayr, about 2½ m. distant, on the road to Maybole. (Oliver and Boyd's Edinb. Almanack, 1865.)

AZANI, a city of Phrygia, on the Edrenos (*Rhyndacus*), now wholly in ruins. The small modern village of Tjauhere-Hissar, 22 m. W. by S. Kutaleh, appears to have been entirely built from its remains. Little is said about this city in ancient authors; but its ruins, which have been carefully described by Major Keppel, show that it had been a place of great wealth and magnificence. The principal remains are two bridges, connected by a superb quay, with a temple and a theatre, the latter being 282 ft. in diameter. Some of the columns of the temple are still standing; they are of the Ionic order; the shafts, formed of a single block of marble, being 28 ft. in length. And this is really only a fair specimen of the numberless remains of antiquity in a country once swarming with cities, and in the highest state of wealth and improvement; but now all but depopulated, steeped in poverty, and a prey to every disorder that a barbarian government and a debasing superstition can inflict.

AZERBIJAN (an. *Atropatena*), a prov. in the NW. of Persia, between 26° and 38° 40' N. lat., and 44° 20' and 49° E. long., having N. the Aras or Araxes, E. a part of the Russian territories and the Caspian Sea, S. the Kizil-Ozein, which separates it from the other Persian provs., and W. Turkish Armenia. It consists of a succession of high mountains, separated by extensive valleys and plains. Mount Sevellan towards its E. frontier, the next highest mountain to Ararat in this

part of Asia, rises to between 12,000 and 13,000 ft. above the level of the sea. The Sahend Mountains, in the centre of the prov., attain to the height of 9,000 feet. The Talish Mountains run from N. to S. parallel to, and at no great distance from, the Caspian. The great salt lake of Urmiah (see ARMENIA and URMIAH) is one of the distinguishing features of the prov. It has numerous rivers, of which the Araxes, Kizil-Ozein, and Lugatty, are the chief. The summers are hot; but the winters, owing to the height of the country, and the number of high mountains covered with snow for the greater part of the year, are severe and long-continued. In the valleys and plains the land is very fertile, and yields abundant crops. Mr. Kinner says, 'Azerbaijan is reckoned among the most productive provs. of Persia, and the villages have a more pleasing appearance than even those of Irak. They are, for the most part, embosomed in orchards and gardens, which yield delicious fruits of almost every description; and were it not for the tyranny of their rulers, no people could anywhere enjoy to a greater degree the comforts of life. Provisions are cheap and abundant, and wine is also made in considerable quantities; but the bulk of the people are too poor to avail themselves of these blessings; and, in the hope of bettering their condition, contemplate with pleasure the approach of the Russians.' (Memoir, p. 149.) The principal towns are Tabreez, Ardebyl, and Urmiah.

AZINGHUR, an inland town of Hindostan, presid. Bengal, prov. Allahabad, cap. distr.: 40 m. NNE. Benares; in 24° 6' N. lat., 83° 10' E. long. Pop. incl. troops, 13,332. Cotton stuffs are largely manufactured here and in the vicinity. It was ceded by the Nabob of Oude in 1801.

AZMERIGUNGE, an inland town of India beyond the Brahmapoora, pres. and prov. Bengal, distr. Sylhet; 55 m. NE. Dacca; lat. 24° 33' N., long. 91° 5' E. It is a place of considerable inland traffic, and has an establishment for building native boats.

AZOFF (SEA OF), the *Palus Meotia* of the ancients, an inland sea in the SE. quarter of Europe. It communicates by the narrow Strait of Yenicalé (an. *Bosphorus Cimmerius*) with the NE. angle of the Black Sea, and is everywhere else surrounded by Russian territories. Its name is derived from the town of Azoff (see next article), near its NE. extremity. It is of a very irregular shape; its greatest length, from the long, narrow sand-bank facing the E. coast of the Crimea to the mouths of the Don, being about 212 m.; and its greatest breadth about 110 m. From the Strait of Yenicalé to Taganrog is about 160 m. It is generally shallow, and encumbered with sand-banks, having, where deepest, not more than seven fathoms water, and in some places much less. Along its western shore it is marshy; and its NE. division, or that extensive arm denominated the Gulf of the Don, is so very shallow that it cannot be navigated, even where deepest, by vessels drawing more than 10 or 12 ft. water. During the prevalence of easterly winds, the waters at Taganrog, and other places in the gulf, recede sometimes to a considerable distance from the shore, rushing back with great violence when the wind changes to an opposite direction. Inasmuch, however, as its bottom consists mostly of mud, vessels take the ground without being injured; and it is, in consequence, less dangerous than might have been supposed. Owing to the vast quantity of fresh water brought down by the Don and other rivers, its waters are little more than brackish, and at times are potable more than 20 m. below Taganrog. It teems with fish, and the fisheries

are important and valuable. It is partially or wholly covered with ice from November until February, or even March. The navigation of the Sea of Azoff generally commences the first week in April and terminates the last week in November. It is considered unsafe for vessels to prolong their stay after that date, as they incur the risk of being caught in the ice. When masters of vessels observe the 'barber' flying, it is an infallible sign of approaching frost. There are no ports in the Sea of Azoff suitably adapted for vessels to winter in, and Kertch is invariably chosen for that purpose. Berdiansk, however, possesses on the west side of the spit a small bay capable of holding from 150 to 200 lighters, and which is generally made use of by the small craft of the Azoff. The coasting-trade of the Sea of Azoff has nearly trebled since the Crimean war. In 1863 as many as 501 vessels entered the port of Berdiansk with cargoes amounting to 54,205L, and 588 cleared with cargoes to the value of 25,915L. They are principally employed in carrying government provisions from the river Don to the different Black Sea stations, coals from Rostoff, timber, fruits, salt and fish. (Report of Mr. Acting Consul Wagstaff on the Trade of Berdiansk, dated July 14, 1864; Purdy's Sailing Directions for the Black Sea, &c., p. 212.; Hagemeister on the Commerce of the Black Sea.)

AZOFF, a town and fortress of European Russia, on an eminence on the left bank of one of the arms of the Don, near the NE. extremity of the above sea. This town was founded at a very early period by Carian colonists engaged in the trade of the Euxine; and was called by them *Tanais*, from the river (Don, then Tanais), of which it was the port. In the middle ages it was called *Tana*. It came into the possession of the Venetians after the taking of Constantinople by the Latins; and was held by them till 1410, when it was sacked, and its Christian inhabitants put to the sword, by the Tartars. The latter gave it the name of Azoff, which it still retains. Formerly it had an extensive trade, being the emporium of all the vast countries traversed by the Don. But owing to the gradual accumulation of sand in that channel of the river on which it is built, and the consequent difficulty of reaching it by any but the smallest class of vessels, its trade has been entirely transferred to Taganrog; its fortifications have also fallen into decay; and it now consists only of a cluster of miserable cabins, inhabited by little more than 1,200 individuals.

AZORES (THE), or WESTERN ISLANDS, an archipelago in the Atlantic Ocean, belonging to Portugal, from which it is about 800 m. distant, occupying a line of about 100 leagues from ESE. to WNW., between $36^{\circ} 59'$ and $39^{\circ} 44'$ N. lat., and $31^{\circ} 7'$ and $25^{\circ} 10'$ W. long. It is divided into three subordinate groups. The 1st, lying at the WNW. extremity of the archipelago, includes Flores and Corvo; the 2nd, or central, Fayal, Pico, St. George, Graciosa and Terceira; and the 3rd at the ESE. extremity, St. Michael's, the largest of the whole, and St. Mary's. The name (*Ilhas dos Acores*) is said to be derived from the vast number of hawks (*falco milvus*), called by the natives *acôr*, by which they were frequented at the epoch of their discovery. These islands seem to be of comparatively recent volcanic formation. Their general aspect is picturesque and bold. For the most part they present an irregular succession of isolated, conical, or acuminate hills, with table lands rising from 2,000 to 5,000 ft. in height; the former separated by valleys, the latter stratified and intersected by tremendous ravines and deep chasms, formed by the action of rain on the soft

volcanic remains composing the mountains; the whole are almost invariably bounded by magnificent mural precipices, rising abruptly from the sea, and frequently rendered inaccessible by soft crumbling lava and masses of loose tufa, of which they are formed. The peak of Pico, about 7,000 ft. in height, is the highest elevation in the Azores. When seen from a distance it appears like an isolated cone in the middle of the ocean. This archipelago is subject to the most tremendous convulsions, towns and villages being sometimes swallowed up, while, at other times, rocks and islands have been forced up from below the waves. The last of these phenomena occurred in 1811, when an island was thrown up that has since disappeared. The soil is extremely fertile, and industry and intelligence are alone wanting to make it in the highest degree productive. The climate, though unsettled and humid, is, on the whole, excellent. The average annual range of the thermometer is from 50° to 75° . Rains are frequent, and often so violent as to effect considerable changes in the appearance of the country; but scarce a day passes in which the sun does not, at some period, shine forth. The decidedly fine days may be estimated at about 200, and the wet days at about 60. Sudden gusts and gales of wind are frequent; and this, combined with the fact that they have not to boast of a single good harbour, make the islands shunned by the navigator. They produce luxuriant crops of all sorts of grain and pulse, wine, the finest oranges and lemons, bananas, sugar-canes, coffee-plants, tobacco, the valuable lichen roccella; and, with a little care, most vegetable products may be brought to the utmost perfection. Asses and bullocks are the usual beasts of burden. Horses are scarce and bad; sheep and goats numerous; and pigs and dogs swarm to an excess. Owing however to the idleness, occasioned in part by the productiveness of the soil and mildness of the climate, but in a far greater degree by the ignorance of the people, and the influence of vicious laws and regulations, industry is all but unknown. The lands are generally divided into large estates, held under strict entail; and the system under which they are leased out to the actual cultivator is as bad as possible. The latter, being exposed to every sort of exaction and tyranny, never thinks of attempting any improvement. Hence the practice of agriculture is but little, and the science not at all, understood. The rude system of their forefathers is continued without change or modification of any kind; and their implements are little superior to those of the American Indians. And yet, despite this want of industry, such is the extraordinary fertility of the soil, that, though in great part waste and uncultivated, it not only furnishes sufficient supplies of corn and other things for the native population, but also a considerable surplus for exportation. A good deal of coarse linen is manufactured, part of which is exported.

The principal exports are, in ordinary years, to England, about 180,000 boxes of oranges, 2,000 pipes of wine and brandy, and some roccella; for which she sends in exchange woollen and cotton stuffs, hardware, and wearing apparel. To Brazil the exports are about 5,000 pipes of wine, 12,000 yards coarse linen, and pulse of all sorts; for which she sends back rum, coffee, sugar, &c. To Hamburg and the N. of Europe are exported 14,000 boxes of oranges and lemons, and 6,000 pipes of wine and brandy, the returns being made in pitch, iron, glass, and cordage. To the United States are sent 4,000 pipes of wine, 200 of brandy, and 12,000 boxes of oranges and lemons, the returns being fish, staves, timber, tar and oil. To Portugal are

sent large quantities of grain and pulse, salt pork and beef, coarse linen and cheese.

The population of the archipelago was found, by the census of 1858, to amount to 240,548, not a sixth part of what it might be, were the islands moderately well cultivated. They are divided into three departments, and are governed by a governor-general and two lieutenant-governors. The seat of government is at Angra in Terceira, but Ponte Delgada, in St. Michael's, is the principal town. The revenues amount, in all, to about 525,000 crowns a year, and the expenditure to nearly 200,000, leaving a balance of about 330,000 crowns to be remitted to Portugal. (Boid, p. 80.) The men are well proportioned, strong, and well made; and the women fairer than those of Portugal. All classes are grossly ignorant; and are, consequently, in the last degree superstitious and bigoted. The lower orders are temperate, and all ranks are passionately fond of music. The dress of the common people is rude, and they are intolerably filthy and dirty in their persons. The higher classes are pompous, overbearing, and in the most abject state of moral debasement. The ladies possess few acquirements, have no conver-

sation, and lead a life of excessive indolence. The low state of intelligence and morals is principally ascribable to the ignorance and vices of the clergy. Previously to 1832, there were numerous monasteries and convents, which were suppressed at the last-mentioned epoch.

The history of the Azores is obscure. They were unknown to the ancients, but the Arabian geographers of the middle ages seem to have had some knowledge of them, though it was not till towards the middle of the 15th century that a Flemish merchant, who had sailed from Lisbon, was driven by stress of weather on their coast. The court of Portugal, being informed of the circumstance, sent the navigator Cabral to prosecute the discovery, who fell in with St. Mary's, in 1482. In 1487 they were all discovered. At this epoch they were entirely uninhabited and covered with forest and underwood.

AZPYTIA, a town of Spain, prov. Guipuscoa, 15 m. SW. San Sebastian. Pop. 2,335 in 1857. It is surrounded by walls, and has some iron foundries. There are jasper quarries in its vicinity.

AZREK (BAHR-EL), or the BLUE RIVER. See NILE.

B

BAAL-BEC, or **BALBEC** (the *Heliopolis* of the Greeks), anciently a large and splendid city; lat. 34° 1' N., long. 36° 11' E.; 40 m. NW. Damascus, 41 m. SE. Tripoli, 58 m. NE. Sidon, and 180 W. by S. Palmyra. It is situated in a fertile, well-watered valley, the Coele-Syria (hollow Syria) of the ancients, and the Batena of the moderns, between the ridges of Libanus and Anti-Libanus, at the foot of the lower ranges of the latter.

Baal-Bec has been declining for a lengthened period; but, of late years, its decay has been peculiarly rapid. In 1751 the pop. amounted to 5,000, in 1785 it had diminished to 1,200, in 1818 it did not exceed 500, and in 1835 it barely amounted to 200. In 1810 it had a serai (the residence of the emir), two handsome mosques, and one good bath; in 1816 one mosque had vanished, the other was in ruins; and in 1835 there remained no trace of either, or of the serai. The remains of ancient architectural grandeur are, however, more extensive in Baal-Bec than in any other city of Syria, Palmyra excepted; and Burckhardt regards them as superior in execution even to those of the latter. Finely grouped together, on the W. side of the town, are three temples, the largest occupying a circuit of more than half a mile, and originally consisting of a portico, hexagonal court, and a quadrangle, besides the peristyles of the temple itself. Of this last, six gigantic and highly polished pillars, 71 ft. 6 in. in height, and 23 ft. in circumference, with their cornice and entablature, remain to attest the stupendous magnitude and beauty of the structure of which they made a part. The two courts were encompassed by chambers, open towards the front, supposed by Wood to have been either the dwellings of the priests, or public schools; and the peristyle was surrounded, towards the W., by an esplanade 29½ ft. in width, and terminated by a sloping wall 32 ft. high. In this wall are three enormous stones, of which two are 60 and the other 63 ft. in length, their common breadth and thickness being 12 ft. These gigantic masses are more than 20 ft. from the ground; and the course immediately below them consists of blocks, less enormous, certainly, but varying from 30 to 37 ft. in length, with a breadth of 12 and a thickness of 9 ft. The remainder of this cyclopi-

an wall is formed of very large stones, but there are none so vast as the above. Immediately to the S. of the great temple is a smaller, but more perfect edifice, of which the peristyle, walls, and twenty columns remain. The door-way leading into the body of this temple is 25 ft. high by 20 ft. 10 in. broad, surmounted by a superb basso-relievo, representing an eagle hovering, as it were, over the worshipper when about to render homage to the presiding deity. Both ruins are among the finest specimens of the Corinthian order. Walls, ceilings, capitals, entablatures, every spot where the chisel could be introduced, is covered with the most exquisitely finished carving and sculpture. Solidity, too, has been most successfully combined with, and not sacrificed to, ornament. Though little cement has been used, the joints are so admirably formed that a penknife cannot be introduced into them. The more ponderous masonry has preserved its position by the mere force of gravity; the parts of the pillars are connected by iron cramps. When perfect, the great temple, with its courts, exhibited 130 pillars; the lesser, 60; and, according to Wood and Dawkins, the dimensions of each were as follow:—

GREAT TEMPLE.

	Length			Length	
	Feet	Feet		Feet	Feet
Steps	50	188	Peristyle	280	160
Portico	48	261	Esplanade	—	29½
Hexag. Court	190	266	Height of Temple from ground to pediment, 120		
Quadrangle	404	420			

SMALLER TEMPLE.

Length	Width	Height
226 ft.	118 ft.	102 ft.

The smaller temple is without courts.

A barbarous Saracenic wall is built across these ruins on the E.; 300 or 400 ft. from which is the third temple, a beautiful circular building, surrounded by Corinthian pillars; its extreme external diameter being 63 ft., and its interior 32 ft.; most probably it had been surmounted by a cupola. It is considered as a *chef-d'œuvre* of art; but unfortunately it is in a very dilapidated and tottering

state. Like the larger temples, it is built of compact limestone, with but little, if any, cement. In the SW. corner of the town, on the highest spot of ground within the walls, is a solitary Doric column, 60 ft. high, including capital and pedestal. On the top is a basin 3 ft. deep, from which a hole, cut through the capital, communicates with a curved channel 9 in. wide and 6 deep, cut in the S. side of the shaft, from top to bottom. From this it has been inferred that the pillar was connected with the water-works of the city: some suppose it to have been a clepsydra or water-dial. The walls of the city, 8 or 4 m. in circuit, exhibit a strange mixture of materials; the breaches made by time or war, in the older erections, having been repaired at different times from the ruins of the ancient temples and other buildings. In one place may be seen a large altar-piece reversed; in others, stones inscribed with Greek or Roman characters; but all in confusion, and many turned upside down. The gates are of the Saracenic period. Without the walls, 5 or 6 m. W., is a remarkable isolated Corinthian column, between 50 and 60 ft. high, with a square compartment on its N. side, as for an inscription, but no letters remain. NE. of the town is a subterranean aqueduct, 16 ft. below the surface, with several curious chambers cut in the surrounding rock. The whole neighbourhood looks like an immense stone quarry; and on the S.E., at 50 or 60 paces from the walls, among other stones of immense size, is one worked on three sides, larger than any used in the wall of the great temple. It is 70 ft. in length, with a breadth and thickness of 14 ft. Greek, Roman, and Saracenic ruins cover the country for three or four leagues round, all evidently connected with the former greatness and prosperity of this city.

No ancient author refers to the buildings at Baal-Bec. John of Antioch, a Christian writer of the 7th century, ascribes, in an incidental manner, the erection of a temple to Antoninus Pius; and this is the only account, with any pretensions to authority, of the origin of these extraordinary remains. But Baal-Bec was a flourishing city ages before the Christian era; and the probability seems to be, that the Baal-Ath, built by Solomon, in Lebanon (2 Chron. viii. 6), was identical with Baal-Bec. This is, indeed, the received opinion of all classes in Syria; and though the remains of Corinthian architecture cannot be referred to a remoter period than that of the Roman emperors, the cyclopiian wall is evidently of a far more ancient date, and answers to the description of the 'House of the Forest of Lebanon,' built for the daughter of Pharaoh. (1 Kings vii. 10.)

That the Syrian deity BAAL (literally *Lord*) was a personification of the sun, as the vivifying principle of nature, is evident from the Herodian (v. 5), the various passages of Scripture from Judges to Jeremiah, and, indeed, from the united testimony of antiquity. (Calmet, Dictionnaire de la Bible, art. BAAL.) BEC, or more properly BERR, is a dwelling. *Baal-Bec* signifies, therefore, the house or city of the sun, and this designation the town retained, in the Greek form, *Heliopolis*, which is merely a translation of its Syrian name. It may be concluded that Ben-hadad subdued this city with the adjacent country (2 Chron. xvi. 4); and that, on the overthrow of the Syrian kingdom of Damascus, it passed beneath the sway of the Assyrians (2 Kings xvi. 9); but the silence of all the most ancient authors, respecting so populous and wealthy a city, is as profound as it is remarkable. It, of course, shared the fate of the rest of Syria, passing, successively, into the hands of the Persians, Greeks, and Romans. It was the station of a garrison in the time of Augustus; but, while

under the Romans, seems to have been famed, rather for its wealth and splendour, than for its military importance. It made, however, a brave resistance to the Arab arms, A.D. 636, and was at length surrendered upon a capitulation, the terms of which sufficiently attest its great resources; 2,000 oz. of gold, 4,000 do. of silver, 2,000 silken vests, and 1,000 swords, besides those of the garrison, being the price demanded and paid to preserve it from plunder. In 748 it was sacked and dismantled in the wars of the Ommyade and Abbasside caliphs, and from this blow it never revived. During the Crusades it submitted, alternately, to whichever party happened, for the time, to be the stronger. In 1400 it was plundered by the Tartars under Tamerlane or Timur Bec, since which period it has been of no importance except to the antiquary and historian. In 1759 it was shaken by an earthquake; and, judging from its decline during the last century, the day is not far distant, when, like many other eastern cities, it will cease entirely to be inhabited.

Though nothing certain be known of the history of Baal-Bec, it is sufficiently obvious that its opulence and grandeur must have been mainly owing, partly to its situation in a fertile and well-watered country, but more to its being a commercial *entrepôt*. Any one who takes up a map of Syria will see, at a glance, that its position is one of the best that could have been selected for an intermediate station between Palmyra and the cities and ports along the Phœnician coasts. Commodities passing from Palmyra to Tripoli, Berytus (Beyrout), Sidon, and Tyre, and conversely, would be most conveniently and expeditiously carried by way of Baal-Bec. No doubt, therefore, it was mainly indebted for that wealth, of which its ruins, like those of its great rival Palmyra, attest the magnitude, to the trade of which it was long a principal centre. And the desolation in which these two splendid cities are now involved is at least owing as much to the changes that have taken place in the channels of commerce, as to the barbarism and ignorance of their modern masters. (Wood and Dawkins's Ruins of Balbec, *passim*; Volney, ii. 195, 205; Burckhardt's Travels, 10, 17; Richardson's Travels, ii. 502-510.)

BAAR, a town of Switzerland, cant. Zug, 2 m. N. Zug. Pop. 3,323 in 1860. It is situated in a fertile plain, has a fine town-house, built in 1674, and a paper manufactory.

BAARLE, a town of the Netherlands, prov. Brabant, 12 m. SE. Breda. Pop. 1,853 in 1861. It gave its name to Barlaeus, the celebrated litterateur and Latin poet.

BABA (an. *Lectum*), a cape and sea-port town of Asiatic Turkey, Anatolia, 22 m. S. from the most southerly point of Tenedos; lat. 39° 30' 5" N., long. 26° 5' E. Near the cape is the town, small and ill-built, with about 4,000 inhabitants. It was formerly famous for a manufacture of knives and sword blades; but, though not entirely abandoned, this manufacture has greatly fallen off. The port is practicable only for small vessels. Large quantities of valonia are produced in the neighbouring country. The trees, with the fields on which they grow, belong to a multitude of individuals; one man being the proprietor of five trees, another of ten, and so on. The right to export the valonia is a privilege annually confirmed by a firman; a less or greater sum being paid to the seraskier by whom it is obtained. (Voyage du Duc de Raguse, ii. p. 146.)

BABA-DAGH, a town of Turkey in Europe, prov. Silistria, near the NW. angle of Lake Rascsein, which communicates with the Black Sea, 21 m. S. Danube. Estimated pop. 10,000, con-

sisting of Tartars, Greeks, Jews, and Turks. It is well fortified; streets paved, but dirty; has five mosques, two public baths, and a college. The ground on which it stands is marshy; and the only water fit for drinking is conveyed to it a distance of about 8 m. by an aqueduct. It carries on a considerable trade by means of the port of Kara Kerman, one of the outlets of Lake Russein on the Black Sea.

Baba-Dagh was built by the Turkish sultan Bajazet. It is a place of considerable importance in the wars between Russia and Turkey, and has sometimes been the winter quarters of the grand vizier.

BAB-EL-MANDEB (STRAITS OF), the strait uniting the Indian Ocean with the Arabic Gulf or Red Sea. The distance across, from a projecting cape on the Arabic shore to the opposite coast of Africa, is about 20 m.; but in the intermediate space, though much nearer Asia than Africa, is the small island of Perim, and some other still smaller islands. Perim is in lat. $12^{\circ} 35' 30''$ N, long. $43^{\circ} 28'$ E. The channel between Perim and the Arabic coast, though narrower than the other, and the current more rapid, is the most frequented by Arabic vessels, probably because, being only from 7 to 14 fathoms deep, it allows of their casting anchor, which, owing to its great depth, is impracticable in the greater or western channel.

Bab-el-Mandeb means literally the gate of tears; a designation it may have derived either from the dangers incident to its navigation, or from those incident to the navigation of the seas on either side.

BABYLON (בבל), or BABEL (בבל), a city of Asia, cap. Chaldea, and of the Assyrian empire, being probably the largest city of antiquity, and certainly one of the most famous. Nothing remains of the ancient buildings but immense and shapeless masses of ruins; their sites being partly occupied by the modern and meanly-built town of Hillah, the cap. of a district, and the residence of a bey appointed by the pacha of Bagdad. This town lies on the W. bank of the Euphrates, and occupies nearly the centre of the S. part of the old enclosures; lat. $32^{\circ} 28' 30''$ N, long. $44^{\circ} 9' 45''$ E. Pop. estimated at about 6,500, chiefly Arabs and Jews. It is surrounded by mud walls and a deep ditch, and has four gates. Modern Babylon, or Hillah, has a rude citadel, the only public building within the walls, except a single mosque, and six or seven oratories. The Euphrates, at Hillah, in its medium state, is 450 ft. wide, $7\frac{1}{2}$ ft. deep, and its mean velocity is about $2\frac{1}{2}$ m. an hour. The whole surrounding country is intersected with canals. The undoubted antiquity of many of these works is not a little surprising, considering the nature of the soil, which is wholly alluvial, and so soft that the turning the course of the river by Cyrus (Herod. Clio, § 191; Xen. Cyrop., vii. 5), does not appear to Rich an exploit of any great difficulty. (Mem. 17.) The Euphrates annually overflows its banks, inundating the country for many miles round, and even rendering the district between the Euphrates and Tigris navigable in many places for flat-bottomed boats. This annual flood fills the canals, and facilitates agriculture in a surprising degree. The air is salubrious, and the soil extremely fertile, producing dates, rice, and grain of every kind, in astonishing profusion; but, in consequence of the illegal and irregular exactions of the pachas, and the insecurity to which all kinds of property is exposed, the inhabitants exert no sort of industry; the numerous canals are left dry and neglected, except when filled spontaneously by the river; and the small quantity of land that is cul-

tivated is not half tilled. (Niebuhr, Voy. en Ar., ii. 234-237; Rauwolf's Travels, p. 174, &c.; Rennell's Geog. Her., i. 459, &c.; Rich's Mem. on Ru. Bab., pp. 1-17; Mignan's Trav. in Chaldea, pp. 114-122.)

Such is the present state of a city, once the greatest, most magnificent, and powerful, in the world; 'the glory of kingdoms, the beauty of the Chaldees' excellency.' (Isa. viii. 20.) We need say little of the identity of the site occupied by the ancient and modern towns; this has been completely established by Major Rennell. It is sufficient to observe that the traditions preserved by eastern writers, the universal belief of the present inhabitants, the descriptions of the ancient historians, and, above all, the discoveries by modern travellers of stupendous ruins answering to those descriptions,—leave no room or ground for any reasonable doubt upon the subject. (Rennell, i. 459-511.) The magnitude assigned by ancient writers to this celebrated city is so immense as to stagger belief. It was a perfect square, and, according to Herodotus, 400 stadia in cir. (Clio, § 178.) Strabo (p. 738) gives the circ. at 885 stadia; Diodorus Siculus at 860, on the credit of Ctesias; but at 865, on that of Clisarchus, who was on the spot with Alexander (ii. 1.). Quintus Curtius gives it at 368 stadia (v. 1.), and Pliny (vi. 26) at 60 Roman m. The inextricable obscurity in which the itinerary stadium of the Greeks is involved (see Rennell, i. 17-44) renders it exceedingly uncertain whether these differences are to be regarded as real, or as arising from the adoption of different standards. Assuming, however, that the same stadium is meant in each case, taking it at its least possible value, 491 ft.; and taking also the measure of Diodorus, the least of the whole, the area of ancient Babylon, within the walls, will be found to be upwards of 72 sq. m., or nearly $3\frac{1}{2}$ times that of London with all its suburbs. If, at the same value of the stadium, the measure of Herodotus, or that of Pliny, be taken, the area will amount to more than 1244 sq. m., or about 5 times that of London in 1865; and finally, if the common stadium of Herodotus, 600 Grecian or 604½ English ft. (Euterpe, § 149), be adopted, as well as his measurement, the area will swell to 1884 sq. m., or more than seven times that of London.

Various attempts have been made, by comparing its area with the area and population of modern cities, to estimate the population of Babylon. But, on the lowest calculation, it would be found, supposing it to have borne any considerable resemblance to a European city, to have had a population of 5,000,000—a supposition to which all but insuperable obstacles are opposed. For, notwithstanding the amazing fertility of the surrounding country; the fewer wants of its inhabitants compared with those of northern latitudes; and the facilities afforded by the numerous canals, which intersected the adjoining provinces, and by the Euphrates and Tigris, to the importation of bulky and distant products; still there were circumstances connected with its situation and government sufficient to counteract these advantages, and to render it all but impossible that so vast a population could be supported within its walls. The map of Asiatic Turkey shows that the extent of country round Babylon available for agricultural purposes must have been quite inadequate to supply the necessary demands of the supposed population. The Babylonian plain, fertile as it is, is soon lost in the interminable deserts of Sinjar and Arabia; the marshes and lakes of Lower Mesopotamia and Chaldea make a large deduction even from its fertility; while, as if wholly to neu-

tralis the natural advantages of the city, the Babylonian monarchs threw a variety of obstacles in the way of commercial enterprise. (Her. Clio, § 185.) The fact is universally admitted, that Babylon possessed but few points of resemblance to a modern European town. The buildings and population bore no proportion to its extent, and, in the words of Rich, 'it would convey the idea rather of an enclosed district than that of a regular city.' (p. 43.) Pasture and arable land was contained within the walls, sufficient, says Q. Curtius (v. 1), to supply the wants of all the inhabitants. This, no doubt, is an exaggeration; but if, as must have been the case, a large portion consisted of productive ground, its produce might have added considerably to the provisions it was possible to place in store. Xenophon affirms, that when the city was taken by Cyrus, it was stored for twenty years.—*ἄστωρ ἡ εἰκοσιεὶς ἔτη* (Cyrus. vii. 5); and though this may reasonably be considered as much beyond the mark, yet, at a subsequent period, it actually did sustain a siege by Darius Hystaspes, of one year and seven months, and was then, as in the former case, subdued, not by famine, but by surprise. (Herod. Thalia, 152.) That only a small part of its immense area was occupied by buildings is therefore evident. How much is another question, and one which it is impossible to decide. Perhaps, on the whole, we may estimate the population of Babylon at from 1,000,000 to 1,200,000. This supposition derives support from the fact that Seleucia, with a pop. of 600,000, is stated to have been about half the size of Babylon in the days of her greatest glory. (Strabo, xvi. 739; Pliny, vi. 16.)

But though a population at all commensurate to the magnitude of the city, calculated on a scale of European density, be thus improbable, it does not follow, seeing the way in which the area was partially filled up, that the magnitude itself is to be discredited. The authority on which we must mainly rely is of Herodotus. Not only is he the earliest profane writer upon this subject; but he alone, of all the ancient historians, had the advantage of having visited Babylon in person, and while it was still in a state of tolerable preservation. His account of this interesting city has been, with few exceptions, amply corroborated by the testimony of succeeding writers, as well as by the investigations of modern travellers.

Herodotus says nothing of the foundation of the city or its founder, merely remarking that, after the destruction of Nineveh, it became the seat of the Assyrian empire. (Clio, § 179.) But even in his time it was of considerable antiquity, and biblical critics have unanimously referred its origin to the presumptuous attempt of the early post-diluvians to 'build them a city, and a tower whose top may reach to heaven.' (Gen. xi. 4.) Josephus (Antiq. I. iv. 3) expressly says that Nimrod, the grandson of Ham, was the originator of this attempt; and to this day the inhabitants of these parts are as fond of attributing every great work to this 'mighty hunter before the Lord,' as those of Egypt are of referring similar works to Pharaoh. (Rich, 41.) Ashur, the founder of Nineveh (Gen. x. 11; Diod. Sic. ii. 1), having subdued the Babylonian with other surrounding powers, laid the foundations of the Assyrian empire. A domestic tragedy, resembling in many points that of David and Bathsheba, having made him the husband of Semiramis, the strong mind and many accomplishments of his wife induced him, on his death, to leave her regent for his son, though it would appear that she governed in her own name till her death (Diod. Sic. ii. 20); and to her was owing most of the grandeur of Babylon.

According to Herodotus, the city was built on both sides the Euphrates, the connection between its two divisions being kept up by means of a bridge formed of wooden planks laid on stone piers. The streets are described as having been parallel, and the houses from three to four stories in height. The city was surrounded by a deep and broad ditch, and by a wall flanked with towers, and pierced by 100 gates of brass. The wall was built of bricks, formed from the earth taken out of the ditch, and cemented by a composition formed of heated bitumen and reeds; the former being brought from Is (Hit), on the Euphrates, about 128 m. above Babylon. The accounts of Babylon differ in the statements in regard to the height and thickness of the wall by which it was surrounded. Herodotus says it was 200 royal cubits, or about 300 ft. (303 ft. 6 in.) in height, and 50 cubits, or 75 ft. thick. According to Quintus Curtius they were only half the height mentioned by Herodotus (Curt. lib. v. cap. 1); and Strabo reduces them still further, or to 50 cubits or 75 ft. (lib. xvi.) Strabo further says, that two chariots driving in contrary directions could pass each other on the summit of the walls.

The temple of Jupiter Belus (most probably the Tower of Babel) occupied a central position in one of the divisions of the city. Herodotus describes it as a square tower of the depth and height of one stadium, upon which, as a foundation, seven other towers rose in regular succession, the last tower having a large chapel, a magnificent couch, and a table of solid gold. The building was ascended from without by means of a winding stair. The space in which it was built was enclosed within walls, 8 stadia in circumference, and consequently comprising above 33 acres. The gates to the temple, which were of brass, and of enormous magnitude, were seen by Herodotus. In the other division of the city stood the royal palace, which seems to have been a sort of internal fortification, and was, no doubt, of vast dimensions. (Clio, § 181.)

It is difficult to say to which of the ancient buildings the existing ruins are to be ascribed. The principal of these are the Kasr, or palace; the Mujelliba, or the overturned; and the Birs Nemroud, or tower of Nimrod. These are all of great magnitude, and are at very considerable distances from each other. The most considerable, the Birs Nemroud, is a mound of an oblong figure, 762 yards in circumference. On its W. side it rises to an elevation of 198 ft., and on its summit is a solid pile of brick 87 ft. high. It consists entirely of brick-work, and Niebuhr, Rich, and Mignan agree in supposing it to be the remnant of the sacred edifice, and identical with the Tower of Babel. (Niebuhr, ii. 236; Rich, 38, 49, 54, &c., 2nd Mem. pass.; Mignan, 302.)

The particulars given above of the ancient state of this famous city have been mostly derived from Herodotus, by whom, as already stated, it was visited after its conquest by Cyrus, and before it had sustained any material injury. But if credit be given to later and less trustworthy authorities, Babylon had to boast of still more extraordinary monuments than any previously mentioned. Among these may be specified a tunnel under the Euphrates, and the famous hanging gardens, containing near four acres of land, elevated far above the level of the city, and bearing timber trees that would have done no discredit to the Median forests. (Diod. Sic. ii. 7, 9, 10; Strabo, xvi. 788; Curt. v. 1.)

But there are doubts as to the existence of any one of these structures. Strabo, who describes the

hanging gardens, did not visit Babylon, and could, therefore, proceed only on the reports of others. He represents them as consisting of a series of terraces raised one above another like seats in an amphitheatre, and resting on arches and pillars, some of the latter being hollow and filled with earth. And it is easy to see that structures of considerable extent and altitude might have been raised in this way, and might have afforded accommodation for a great variety of plants. But it is hardly possible to suppose, had these gardens been of anything like the magnitude ascribed to them, that they should have escaped the notice of so curious an observer as Herodotus. It is also very doubtful whether the Babylonians were not ignorant of the arch, and, if so, the difficulties they would have to encounter in the construction of the gardens would be so much the greater. On the whole, the presumption appears to be, either that the gardens did not exist at all, or that they were of such moderate dimensions that their formation could not be regarded as a work of any extraordinary difficulty, or likely to arrest the attention of Herodotus.

The tunnel below the Euphrates, constructed, we are told, to enable Semiramis to pass privately between her palaces on the opposite sides of the river, is mentioned only by Diodorus. Had it really existed, it would have been decidedly the most extraordinary work in Babylon, or, rather, in the ancient world. But the statements in regard to it do not appear to be entitled to much regard. The obstacles in the way of such a work, especially in the loose alluvial soil on which Babylon stood, were not of a nature that the engineers of these days could have overcome. Herodotus describes the bridge over the river, which was far less worthy of notice, and less likely to attract attention than the tunnel. But he does not say a word respecting the latter, and in this reserve he is followed by Strabo.

The great works of Babylon were all constructed of brick, except the bridge, the stones for which must have been brought from a distance, since none are found in the alluvial soil of the country. The bricks are of two kinds, sun-dried and kiln-dried: they are much larger than the bricks now in use, and generally marked with figures or cuneiform letters. Straw or reeds are mixed with the courses, and bitumen, procured from Is or Hit, is the usual cement, though mortar and slime are also frequently used. Such is the extent of these vast ruins, that nearly all the cities in the neighbourhood are built from the materials found there, and the storehouse seems to be regarded as inexhaustible.

From the death of Semiramis, Babylon continued a kind of second capital to Assyria, till the revolt of Arbaces and Beleses against Sardanapalus, thirty generations later. It was subsequently sometimes the capital of the whole country, and sometimes that of the separate kingdom of Babylonia; but always advancing in grandeur and prosperity till the days of Nebuchadnezzar, under whom it may be considered as having reached its zenith. (Joseph. *Antiq. X. xi. 1.*) In the midst of its glory, however, the voice of the Jewish prophet was raised against it. The Median conquest was threatened full 120 years before its occurrence; and 'this glory of kingdoms' was doomed to the fate of Sodom and Gomorrah; to be swept with the besom of destruction; to become a possession for the bitter and pools of water; a lair for the wild beasts of the desert, doleful creatures, owls, and satyrs (*Isa. xlii. xiv. et pass.*); predictions, the accomplishment of which has been literal and complete. In the reign of Labynetus,

or Belshazzar, son of Nebuchadnezzar and Nitocris, Cyrus led his army against the city. Turning to their fortifications, the Babylonians defied his attempt; but cutting a canal, he diverted the course of the Euphrates, leaving its channel through the town sufficiently dry for the passage of his army. The same thing had been done on a former occasion, by Nitocris, to build the bridge; but in this instance an additional work seems to have been performed in the erection of locks or dams, to preserve the river in its natural course till the very moment of attack, and thus prevent suspicion of his design; for had the Babylonians, says Herodotus, been aware of it, they might easily have enclosed the Persians, as in a trap, and effected their total destruction. Taking advantage, however, of a festal occasion, Cyrus drew off the waters, entered the town by surprise, and captured it almost without resistance. (*Xen. Cyr. vi. 5*; *Herod. Clio. §191*; *Dan. v.*) The sacred historian gives a vivid account of the manner in which the last Babylonian king spent the night before his death, and of the awful warning which preceded his overthrow. Babylon remained subject to the Persian monarchs till the reign of Darius Hystaspes, when it revolted, but was again subdued by stratagem. Darius took away the gates, and otherwise injured the city, so that its declension may be fairly dated from his time. Xerxes is said to have defaced the temple of Belus on his return from Greece; but such were the resources and conveniences of the city, that it remained the winter residence of the Persian monarchs for several generations. It made no resistance to Alexander, who intended making it the capital of his gigantic empire. He contemplated, also, the restoration of the temple; and having employed 10,000 men for two months, in removing the rubbish, the work was stopped by his death. Seleucus Nicator, who, after that event, became monarch of Babylonia, founded the city of Seleucia, on the banks of the Tigris, and made it his capital. From this time the decline of Babylon was very rapid; but the mighty city which required ages to rear, required also ages in which to perish. It was still important, though in ruins, at the commencement of the Christian era. (*Herodotus, Thalia, 159*; *Strabo, xvi. 738*; *Arrian, xvi. 1*; *Pliny, vi. 26.*) Its subsequent history is unknown. It is said to have been turned into a hunting-park by the Parthian kings, who overthrew the Seleucidian dynasty; and it is probable that the materials of its vast buildings served to construct the newer cities in its neighbourhood. It had shrunk to a mere name in the early days of Arab greatness (*Ebn. Haukel, 70*); and in the 495th Hegira, A.D. 1101, was founded the present town of Hillah. (*Abul. Feda Irak, art. Babel.*) The rest of this once famous district is now, and has been for ages, a desolate void; its buildings masses of shapeless ruins, channelled by the weather, and literally the desolation which the prophet predicted:—'And Babylon shall become heaps, a dwelling place for dragons, an astonishment, a hissing, without an inhabitant.'

BACCARAT, a town of France, *dép. Meurthe*, cap. cant., on the Meurthe, 16 m. SE. Luneville. Pop. 4,121 in 1861. This town is the seat of the principal manufacture of flint glass or crystal, in France. It was established so far back as 1764; but it did not attain to any very considerable eminence till after the peace of 1815, when a manufacture carried on at Voniche in Belgium was transferred thither. There are also cotton mills, and good wine is grown in the neighbourhood.

BACHARACH, a town of Prussia, *prov. Rhine*, at the foot of a steep mountain, on the left bank

of the Rhine, 25 m. SSE. Coblenz, on the railway from Cologne to Mayence. Pop. 1,643 in 1861. The town is surrounded by old walls, strengthened by eleven towers. Bacharach is a translation or corruption of *Bacchi ara*, or altar of Bacchus, the name given to a rock in the river, usually covered with water, but appearing in very dry seasons, or in those most favourable to the growth of the vine. Hence the Romans are said to have sacrificed on the rock to Bacchus; and its appearance is still hailed as an omen of an excellent vintage. The best wine produced here is known as 'Muskateler.'

BACKERGUNGE, a distr. of Hindostan, prov. Bengal, div. Dacca, including part of the Sunderbunds, and the mouths of both the Ganges and Brahmapootra; having N. Dacca, Jellapore distr., E. Tipperah and the Bay of Bengal, SW. Jessore; area 3,796 Eng. sq. m.; estimated pop. 784,000; land revenue 78,180*l*. It is mostly covered with jungle, abounding with alligators and the largest class of tigers; but in parts it is very fertile in rice. It has been noted for the frequency of crime, especially of river piracy or dacoity, the country presenting great facilities for the shelter of the culprits. It is subject to inundations that are occasionally very destructive.

BADAJÓZ (an. *Paz Augusta*), a city of Spain, cap. Estremadura, near the frontier of Portugal, in an extensive plain in the angle between, and at the point of confluence of, the small river Rivillas with the Guadiana; 198 m. SW. Madrid, 135 m. E. Lisbon; lat. 38° 52' N., long. 6° 11' W. Pop. 23,310 in 1857. The castle, situated on a rock overhanging the confluence of the two rivers, commands them and the town, which is further defended by various very strong fortifications. The Guadiana is here crossed by a good bridge of twenty-eight arches, erected in 1596, and protected by a strong *tête du pont*. Streets narrow and crooked, but they are well paved and clean, and the houses good. It has five gates, and a fine promenade along the river. There is a deficiency of springs, and the supply of water is derived from reservoirs, cisterns, &c. It is the seat of a bishopric, and the residence of the captain-general of the prov. The cathedral has some good paintings, especially those by Morales, a native of the place; and there are several convents and hospitals. It has manufactories of soap and coarse cloth, with tanneries and dye-works, and is the seat of a pretty active trade (mostly contraband) with Portugal.

Badajoz is very ancient, having been a considerable place under the Romans. It has always been regarded as a military post of the greatest importance. During the late war with France, it was taken by the French under Marshal Soult on the 10th of Jan., 1811; the garrison, amounting to 15,000 men, becoming prisoners of war. In the course of the same year it was twice unsuccessfully besieged by the Anglo-Portuguese army. In the following year the siege was undertaken by the army under the Duke of Wellington; and, after some of the outworks had been carried, it was taken by storm, after a desperate resistance, on the 6th of April. On this occasion the allied army lost about 5,000 men, killed and wounded. The glory of this brilliant achievement was unhappily tarnished by the excesses committed by the victorious soldiery, despite every effort to prevent them, on the defenceless inhabitants of the town.

BADALONA, a town of Spain, Catalonia, within a short distance of the sea, with a castle; 6 m. NE. Barcelona. Pop. 9,525 in 1857. The climate is excellent; and the environs are fertile and beautiful.

BADAUMY, a strong hill fortress of Hindostan,

prov. Bejapoor, presid. Bombay, 55 m. NE. Darwar; lat. 16° 55' N., long. 75° 49' E. Pop. about 2,500. It consists of fortified hills, with a walled town at the bottom, containing an inner fort. It has always been reckoned one of the strongest hill-fortresses in India, and successfully resisted a whole Mahratta army. It was taken by storm in 1818, by a division of the army under Sir T. Munro. A remarkable chaotic distribution of rocks prevails throughout the country around Badaumy.

BADEN (GRAND DUCHY OF), in Germany, is bounded on the S. by the Lake of Constance, with its two arms, the lakes *Ueberlingen* and *Zell*, as far as Stein, between which town and Eglisau, the territories of the Swiss cantons, Schaffhausen and Zurich, intervene three times between the Rhine and the frontier of Baden. On the W. the Rhine forms the boundary towards Switzerland, France, and Rhenish Bavaria, with the exception of a part of the territory of Basel, which lies upon the right bank of the river. Towards the N. the territory of the grand duchy of Hesse and the kingdom of Bavaria, and towards the E. the kingdom of Wurtemberg and Prussia form its boundaries. It lies between lat. 47° 32' and 49° 47' N. The surface is exceedingly varied, the length of the grand duchy being about 150 m. from N. to S.; its breadth, in Lower Rhine circle, from the Rhine to the Bavarian frontier, being about 60 m.; in the Middle Rhine circle, from the Rhine to the frontier of Wurtemberg, about 20 m.; and in the Lake circle, from the same river to the Wurtemberg frontier, extending to nearly 115 m.; thus forming a long irregular figure, very narrow in the centre, but stretching out to some breadth at the N. and S. ends. The eastern half of this tract of country is entirely occupied by a mountainous tract extending from S. to N., under the denominations of the Black Forest and Odenwald; while the western half extending from the fall of these mountains to the Rhine is partly an undulating, but along the banks of that river, mostly a level country.

Mountains.—The Black Forest stretches from the banks of the Rhine, where that river forms the Swiss boundary, in a northern direction through the grand duchy as far as the Neckar, and towards the E. far into the kingdom of Wurtemberg, falling gradually in the latter direction with prolonged offsets, but suddenly and steeply towards the valley of the Rhine. Its main stock is composed of gneiss and granite, which form, as in the Vosges, dome-like masses, with steep sides, rising in the Feldberg, 4,650 ft., in the Belchen, 4,897 ft. (this name is analogous to the Ballans of the Vosges), and in the Herzogen Horn to 4,300 ft., above the level of the sea. On the granite red sandstone is superimposed, and forms extensive plateaux, capable of cultivation to a great height; so that not only extensive forests cover these mountains, but pastures, and even small villages, are found in them at an elevation of 3,500 and 4,000 ft. Deep valleys, with picturesquely precipitous sides, intersect the sandstone layer, and pour rapid streams, for the most part navigable for rafts, into the Valley of the Rhine. In some hills as the Kniebis, for instance, the sandstone appears to form compact isolated masses. 2. The bed of the Neckar, which divides the Black Forest (Schwarzwald) range from the Odenwald, is also of sandstone, which alternates in the northern parts of the grand duchy with blue limestone and marl. The principal mass of the Odenwald is likewise, according to Keferstein (from whose work we take these details), composed of sandstone, little interrupted by the rise of the granite. The highest summit, the Katzenbuechel, 2,180 ft., lies in Baden; but

the greater part of the chain belongs to the grand duchy of Hesse. Like the Black Forest, these heights fall steeply towards the Rhine, and along the foot of the range the *Bergstrasse*, from Heidelberg to Frankfort, a road celebrated for picturesque mountain scenery, uniting with the rich luxuriance of vegetation of the valley, has been carried.

3. The Kaiserstuhl, in the circle of the Upper Rhine, is formed of a clump of heights of volcanic origin, separated from the Black Forest by the Dreisam and the Elz. On the rock, called the Todtenkopf (death's head), a tradition tells us that Rodolph of Hapsburg held a court of justice, whence the name of Kaiserstuhl (emperor's chair) is derived. The highest point is 1,763 Paris ft. in elevation.

4. A range of steep hills, stretching from the Rhine, near Schaffhausen, along the W. and N. shores of the Lake of Constance, is named the Randen. The dominant formation of these hills is limestone; the highest point is 2,527 ft. in height. They run into the Black Forest on the W. and N., and on the NE., into the hilly district of Nellenburg and Hegau. The last named elevations are composed of Jura limestone, in which the basalt and other isolated volcanic rocks of Hohendwyl, Hohenstoffeln and Hohenawen occur.

5. Finally, the Heiligenberg, a rough and sterile tract, rises NE. of the Lake of Constance, and slopes down towards its banks; on its summit, 2,200 ft. high, Prince Furstenberg has a hunting seat, from which there is a fine view of the lake and the Swiss mountains.

Rivers.—The principal river of the grand duchy is the Rhine, which receives all its streams except the Danube. After losing itself in the Lake of Constance, at a distance of 100 m. from its source, it reappears as a rapid stream near Stein, where its breadth is 250 ft., and works its way through limestone rocks to Schaffhausen, a little below which place it falls over a precipice from 50 to 60 ft. in height. Near Laufenburg the bed narrows to a width of only 50 ft., forming a rapid scarcely inferior in grandeur of effect to the celebrated fall at Schaffhausen. At Rheinfelden the rocky ravines in its bed form a violent eddy, and all these obstacles preclude the possibility of rendering the stream navigable above Basel, from which city onward it takes a northerly and tranquil course. Its breadth at Basel is 750 ft.; but its depth is by no means proportionate to this extent of surface, the stream being in many spots no more than 8 ft. deep, while its greatest average depth, between Basel and Strasburg, does not exceed 10 to 12 ft. At Mannheim the bed of the river is 1,000 ft. in breadth; but its average depth between Strasburg and Mayence varies between 5 ft. and 24 ft. The fall of the Rhine between Stein and Basel is stated by Hennitsch to be 703 Paris ft., and between Basel and Mannheim 494 ft. The navigation on the Rhine is the most important of all the inland water carriage. Between Basel and Strasburg boats of 25 to 30 tons are used, and between the latter city and Mainz barges of 120 tons burden. Steamboats go up to Basel, notwithstanding the islands and banks formed by the shifting of the river's bed, and the uncertainty of its depth, which varies after every flood. The Rhine is spanned by stone bridges at Kehl and at Mannheim, besides several flying bridges.

The greater number of the streams falling into the Rhine on its right bank descend from the Black Forest with so rapid a fall that but few of them are navigable even for forest rafts. The most considerable are the Wiebach, which, during part of its course, forms the frontier of the canton of Schaffhausen; the Wiesen, which falls into the Rhine below Basel; the Elz, the Kinzig, which

joins the Rhine near Kehl, and the Murg. The two last named streams, on which the greatest quantity of timber and firewood is floated down, have a fall of nearly 3,000 ft., in a course not exceeding 60 English miles. The largest access which the Rhine receives during its course through the grand duchy is the Neckar, which has its source in Württemberg in the Black Forest, and after traversing that kingdom, enters Baden at Heinsheim. It is navigable for boats from Cannstadt near Stuttgart, below which place it is joined by the Rems, the Kocher, and the Jax on its right, and the Enz on its left bank: it falls into the Rhine near Mannheim.

2. The Maine forms the frontier towards Bavaria, but for a short distance, and receives the Tauber at Wertheim. Its depth is not great, but is regular; and its gentle fall, which is assisted by the numerous windings of its bed, renders its current well adapted to navigation.

3. The Danube, whose sources are in the grand duchy, leaves the territory before it assumes any greater importance than that of a mountain stream. Its most westerly source is that of the Brege, between the Rossuk and Briglein, in the Black Forest, a few miles NW. Furtwangen. It is joined a little above Donaueschingen by the Brizach, and into their united streams, which from that point bear the name of Danube, the waters fall, which, issuing from the springs in the castle-yard of this town, claim the honour of being the original sources of the great river. After traversing a small district of Württemberg, the Danube once more enters the territory of Baden, and finally leaves it at Gutenstein on the frontiers of Sigmaringen.

The natural facilities for internal navigation in the grand duchy bend for the most part towards the W. and N., and merge into one grand channel, the Rhine. With the exception of some cuts to regulate the course of this river between Kehl and Mannheim, the execution of which is regulated by a treaty with Bavaria, according to which those on the left bank are managed by Baden, and those on the right bank by the Bavarians, no navigable canals exist in the grand duchy.

The Lake of Constance is an important feature in the natural facilities for water communication. Part of its northern bank, from Immenstadt to Mersberg, together with the whole shore of its northern branch, the *Weberlingen See*, and the north shore of the *Zeller See*, with the city of Constance on its southern shore, belong to Baden. A considerable trade with Switzerland is carried on across it, and the introduction of steamboats, which keep up a daily communication between Constance, Lindau, and Rohrschach, in Switzerland, has made it a convenient passage for travellers. The whole lake with its branches contains, according to Hennitsch, an area of $9\frac{1}{2}$ German sq. m., and its deepest part, between Constance and Lindau, is 85½ Paris ft. Its level above the sea is 1,255 ft., but at the period of the melting of the snow its waters rise as much as 10 ft. A sudden swell, which takes place at other times, and which is termed the *Ruhes*, is not easily accounted for. The lake is not unfrequently frozen over in winter, and in 1830 horsemen and carriages passed over it. The Ilmen See, near Pfullendorf, in the Lake circle, and the Mörking See, are rather fishponds than lakes; and the various meres in the Black Forest, which are found at considerable elevations, the largest of which are the *Feldsee* at 3,401 ft., the *Tittisee* 2,598 ft., the *Mummelsee* 3,130 ft., the *Nonnenmattweiher* 2,845 ft., and the *Eichner See* 1,494 Paris ft. above the sea, are

Other interesting for their extent, nor for picturesque scenery. The last-mentioned lake dries occasionally, so that corn is sown in its bed; and in the Nonnenmatt a floating island of turfs rises and falls with the water which supports it.

Climate.—The climate in the mountainous parts of the duchy is very severe, the snow lying in some situations for the greater part of the year. But in the lower districts, especially along the Rhine, the Neckar, and the Maine, the temperature is mild and genial, being suitable for the growth of vines, chestnuts, and even almonds. The country is everywhere healthy.

Observations, as to the fall of rain, give a mean at Freiburg of 28 in. per annum. In Carlsruhe the mean variations of the weather are, 23 clear, 86 sunshine, 161 mixed, 42 partial cloudy, 54 cloudy days in the year. Rain falls 146, snow 26, and fogs occur on 12 days. The mean direction of the winds is, in Carlsruhe, S, 88° W. or nearly W., in Mannheim N. 65° W. Thunderstorms in Carlsruhe occur on 26, at Mannheim on 21 days the year.

Productions.—Before the accession of the grand duchy to the Germanic Customs' League, the attention of the inhabitants of the valleys of the Rhine and Neckar was almost exclusively devoted to agriculture, for which the soil and climate of those districts is admirably adapted. Corn is grown with great success; the average return given for the whole state by Berghaus being, for barley 8 to 9 fold, wheat 9 fold, maize 340 to 350 fold, potatoes 28 to 30 fold. The slopes of the hills are everywhere covered with vineyards, in which excellent wine is grown, although only the N. shore of the Lake of Constance and part of the vale of the Rhine have a S. declivity; and here the vicinity of the Alps, the Jura, and the Black Forest, diminish the warmth. Between the vines, the walnut, chestnut, peach, apricot, plum, and cherry trees produce abundantly the choicest fruit; and the valleys above mentioned resemble one beautiful garden. Tobacco, hemp, of a very fine description, and flax, are extensively cultivated; and the forests send annually a large quantity of excellent fir and oak timber down the Rhine. Mining is also carried on with partial success. Silver is found at St. Anton, in the valley of the Kinzig; copper at Kork and Neustadt; iron is produced at Kandern, near Waldshut, near Hansen, and in other parts of the Black Forest; manganese is dug near Villingen; salt in two chief beds at Rappennau in the circle of Lower Rhine, and at Durrheim, in the Lake circle. Coals in the neighbourhood of Offenburg; besides alum, vitriol, and sulphur, form the principal mineral productions. Upwards of sixty mineral springs are counted in the grand duchy. The thermal springs of Baden are those which are the best known and the most used for medicinal purposes.

The grand duchy is divided into four circles, the area of which, and population, at two periods, is shown in the subjoined table:—

Circles	Area in Eng. Sq. Miles	Population	
		1858	1861
Lake . . .	1,303	195,249	198,160
Upper Rhine	1,654	336,465	345,913
Middle Rhine	1,633	457,327	469,782
Lower Rhine	1,314	346,911	355,436
Total . .	5,904	1,335,952	1,369,291

The population of Baden has not greatly increased since the year 1816, when it amounted to

1,005,899. The numbers augmented at a rate of rather less than 10,000 souls annually, till the year 1846, when there was a period of decrease, extending till 1855. From 1846 till 1849, the decrease amounted to 4,712; from 1849 to 1852, to 8,282; and from 1852 to 1855, to the large number of 42,105, or 14,035 per annum. Since 1855, there has been again a gradual increase.

The decline of population has been chiefly owing to emigration. From 1840 to 1849, the number of emigrants was 28,966, and from 1850 to 1855, it rose to 62,444. In the year 1852, no less than 14,866 people left the country; in 1853, the numbers were 12,932, and in 1854 they rose to 21,561. Most of the emigrants were families possessed of some property. It was ascertained that the emigrants of 1853 carried with them property amounting to 1,923,908 florins, or rather more than 100 florins—84 7s.—per head. The great majority of the emigrants went to North America; but about two per cent. were induced, previous to 1856, to go to the French settlements in Algeria. The result of this Algerian emigration proved so disastrous that it has been discontinued.

Religion.—The census of 1861 showed 896,688 Roman Catholics; 445,593 Protestants; 1,221 Mennonites; 1,749 other Christian Dissenters; and 24,099 Jews. The ecclesiastical management of the Roman Catholic Church is under the Archbishop of Freiburg, who is appointed by the pope, and quite independent of the grand-ducal government. A standing feud between church and state has been the result of this independence.

Agriculture.—The cultivated land is divided as follows:—

Arab. Land, Eng. Acres	Cul. Meadows, in Acres	Commons, &c. part cult.	Forests	Vineyards
1,212,901	360,791	301,825	1,153,300	60,561

The produce is stated to amount to—

Total Produce of Corn, Quarters	Potatoes, Quarters	Wine, In Gals.	Hemp, Quintals	Tobacco, Quintals	Hops, Quintals
1,728,965	620,000	13,459,235	48,000	90,000	10,000

Of the Cerealia, wheat is grown, but in a small proportion, not exceeding 1-30th of the whole. Spelt is the grain of which bread is principally made. Maize is extensively cultivated, but chiefly as green food for cattle, being sown thick, and allowed to run up to a great height. Artificial grasses and turnips are in universal use in the vale of the Rhine, in which agriculture, on the whole, is carried on upon the best scale, and far exceeding the cultivation of any other part of Germany. The meadows are irrigated in the Italian style, which the numerous mountain rills assist, while the corn-fields are interspersed with countless fruit-trees, and even the beds are surrounded with plants of hemp, sown singly, which attain a remarkable height and thickness. The best descriptions of wine are those of the Ortenau and of the valleys of the Maine and Neckar. The *Klingenberg* and *Wertheimer* growths are those most admired. The produce of timber and firewood is estimated at 978,000 cubic fathoms, of which a large portion is sent down the Rhine to the ship-builders of Holland, and is known by the name of *Holländerholz*. Masts of 150 ft. in length, and oaks of the choicest growth, are yearly felled in great numbers for exportation to the mouth of the Rhine.

The number of head of cattle in the grandduchy, in 1861, amounted to 72,817 horses, 621,486 horned

cattle, 177,322 sheep, and 307,198 pigs. Of the sheep, about one-fifth are designated as Spanish merinoes, and the rest as improved breeds. The number of beehives in 1861 amounted to 25,047. An agricultural association at Karlsruhe has branches in several other towns, and prizes are annually distributed to encourage improvements.

Mining and Manufactures.—Gold-washing was formerly a principal object of industry along the Rhine, from Basel to Mannheim; it is now confined to the district between Philippsburg and Wittewier. The mines of Teufelsgrund yielded formerly a small supply of silver, but which seems now exhausted. The mines of St. Anthony in the valley of the Kinzig, produce silver and cobalt ore. The salt springs are the most productive mineral branches, the two principal ones yielding 800,000 cwts. annually. Since the accession of Baden to the Prussian Customs' League the number of factories has very much increased. In 1829 the grand duchy numbered 161 fabrics, with 2,756 workmen. At the end of 1837 the number was 294, with 9,281 workmen, and the census of 1861 showed 6,859 factories, employing 64,862 workmen. The principal manufacturing undertakings are cotton-spinning and weaving establishments. The forest and mountain tracts, which occupy half the country, scarcely supply food for their scanty inhabitants, whose manufactures of clocks, wooden toys, straw hats, lace, and embroidery, have been sent, from a long date, into all parts of Europe. The number of wooden clocks annually exported is estimated to amount to 500,000, besides musical snuff-boxes, barrel-organs, and other articles for which the forests furnish the materials.

The subjoined table shows the nature of the manufacturing establishments in the grand duchy, together with the number of hands employed, according to the official returns of the year 1861:—

	Factories	Workmen
Spinning	193	6,216
Weaving, Cloth, Ribbon Manufactures	215	27,382
Metals, Iron Works, &c.	33	502
Metal Wares	198	7,175
Mineral and Mixed Goods for Industrial and Domestic Use	909	3,798
Vegetable and Animal Products for Industrial and Domestic Use	1,314	2,746
Wooden Wares, Paper, and Hardware	313	3,341
Articles of Consumption	3,673	13,585
Other Factories	6	117
Total	6,859	64,862

Of the total number of families in the grand duchy about 42 per cent. are employed exclusively in agriculture and the forests.

The prosperous state of the agricultural population has necessarily acted favourably upon other branches of industry. The building trade especially has very much increased, both in the country and in the towns.

Domestic and manual industry, which had considerably fallen off in consequence of the rapid development of the factory system, has very much revived of late years. The Baden government, convinced of the many advantages which domestic industry possesses over the latter system as regards the health and moral condition of the industrial population, have done much in the last ten years, and are still engaged in providing the best means for improving the condition of domestic manufacturers by the establishment of industrial schools and the general diffusion of

scientific knowledge. (Report of Mr. Baillie, Her Majesty's Secretary of Legation, dated Karlsruhe, February 15, 1864.)

Form of Government.—The constitution of Baden vests the executive power in the grand-duke, and the legislative authority in a house of parliament composed of two chambers. The upper chamber comprises the princes of the reigning line who are of age; the heads of ten noble families; the proprietors of hereditary landed estates worth 300,000 florins, or 25,000*l.*; the Roman Catholic archbishop of Freiburg; the superintendent of the Protestant Church; two deputies of universities; and eight members nominated by the grand-duke, without regard to rank or birth. The second chamber is composed of 63 representatives of the people, 22 of which are elected by burgesses of towns, and 41 by the inhabitants of rural districts. Every citizen not convicted of crime, nor receiving parish relief, has a vote in the elections. To be a deputy, it is necessary to possess tax-paying property to the amount of 10,000 florins, or 833*l.*; or to hold a public office with a salary of not less than 1,500 florins, or 125*l.* The elections are indirect; the citizens nominating the Wahlmänner, or deputy-electors, and the latter the representatives. The members of the second chamber are elected for eight years. The chambers have to be called together at least once every two years.

Public Revenue and Expenditure.—The chief income of the state is derived from direct taxes. The direct taxes are levied as follows:—The *land-tax* upon the estimated value of all lands, calculated according to sales of landed property in each district at two periods, viz. between the years 1780–90 and 1800–9, half the average price of the district in the one period being added to half the price in the second, and all lands being classed, according to their quality, in several classes. The *rent and revenue tax* is levied upon all dues payable by landholders to their lords, whether as rent or service dues. The capital taxed is calculated at 25 years' purchase for tithes, and 18 years' purchase for other dues; and the cost of collection is deducted. The house tax is rated according to a scale of the value of each tenement, between the years 1800 and 1809. The whole of these direct taxes produced above seven millions of florins in the year 1862. The subjoined statement gives the total public income and expenditure for this period.

INCOME FOR THE YEAR 1862.

	Florins
Produce of Crown Lands	1,345,724
Forests and Mines	2,552,921
Direct Taxes	7,084,942
Salt Monopoly	1,439,563
Customs	3,038,959
Fees and Fines	733,943
Mint	822,069
Miscellaneous Income	122,071
Total	17,140,192 or £1,428,349

EXPENDITURE FOR THE YEAR 1862.

	Florins
Civil List	753,490
Ministry of Foreign Affairs	117,200
" of Justice	1,311,398
" of the Interior	2,134,489
" of Commerce	1,335,580
" of Finances	706,524
" of War	2,318,318
Public Debt	1,322,848
General Cost of Administration	5,564,723
Miscellaneous Expenses	247,992
Total	16,411,072 or £1,367,539

Which left a surplus of 729,120 florins, or 60,760*l.*

The public debt of Baden consisted on Jan. 1, 1861, of—

	Florins
Debt, secured on the Crown Lands, &c., bearing no Interest	15,878,761
Interest-bearing Debt	24,625,408
Railway Debt (of which 3,262,559 bearing no interest)	55,780,202
Total	96,284,371 or £8,023,698

Army.—The armed force of the grand duchy is formed by conscription. Substitution, however, is allowed; the government undertaking the charge of the same at a fixed cost. In 1862, the price was fixed by the minister of war at 550 florins, or 46*l.*, for the troops of the infantry; and to 600 florins, or 50*l.*, for the cavalry and artillery. The time of service is six years in the active army, and two years further inscription among the troops of the reserve. But, as a rule, about three-fourths of the time is allowed to be passed on furlough.

The nominal strength of the army consisted, in 1862, of—

5 Regiments of Infantry	10,907 men
2 " of Dragons	1,870
1 " of Artillery	2,077 " with 38 guns
Staff, &c.	65 "
Total	14,919 men, with 38 guns

The actual number of men under arms, 'on the peace-footing,' seldom amounts to more than between 7,000 and 8,000. In the year 1859, when the German Diet ordered the 'war-footing,' the army mustered, on an inspection, 20,722 men, with 5,209 horses and 57 pieces of ordnance.

Public Education and Poor-laws.—Education is compulsory in Baden; and parents are compelled, by strictly enforced penalties, to send their children to school. It is prohibited also to employ children in factories, until they have completed their eleventh year. In 1861, there was one school for every 530 of the population. The university of Heidelberg has a faculty for Lutheran, and Freiburg one for Roman Catholic theological students. The former had, in 1860, 63 professors and 937 students; and the latter, 215 students. The university of Heidelberg is one of the oldest established in Germany; it was founded in 1386; that of Freiburg in 1454.

There are numerous charitable institutions for the poor, kept up by private efforts, and, as a rule, each parish maintains those which are unable, through old age or illness, to gain their subsistence. Since the year 1851, the decrease of pauperism has been gradual and constant, owing, in part, to extensive emigration. In addition to the regularly organised maintenance of the poor by their own parishes, all classes of civil and religious functionaries have subscription funds for providing for orphans and widows, and savings' banks are general, to encourage providence amongst the lower classes. Beyond these institutions no formal provision is made for the poor, whose moderate habits keep them from being burdensome. In the larger towns, subsidiary relief is generally given in the shape of food, clothing, or fuel, from voluntary subscriptions raised by the inhabitants. The regulations as regards settlement in the communes were very despotic until the year 1862, when nearly all the old municipal restrictions, as well as the power of guilds, were swept away by new laws, which introduced 'Gewerbe-Freiheit,' or industrial freedom. Foreigners and natives are now at liberty to settle wherever they please, and to exercise any trade, handicraft, or profession.

Roads and Railways.—The grand duchy is traversed, in all directions, by excellent roads and a

complete network of railways. All the lines of Baden are property of the state, giving a dividend, on the capital expended, of above 15 per cent. In the year 1862, the gross income from railways amounted to 6,027,687 florins; and the expenditure to 3,646,288 florins, leaving a surplus of 2,381,399 florins, or 191,691*l.* The accounts of the income and expenditure of the state railways, as well as of the post-office, are not entered in the general budget, but form a special fund.

History.—Baden, an old prov. of the Germanic empire, was erected into a grand duchy at the Congress of Vienna, in 1815. The reigning family descends from Berthold, landgrave of Zähringen, one of the most powerful and meritorious families of the 11th century, whose son acquired the district of Baden. Margrave Augustus George united all the possessions of the two houses of Baden and Durlach, and received, by the treaties at Lunéville and Presburg, as additions, the bishopric of Constance; the Austrian Breisgau; part of the palatinate of the bishoprics of Spire, Strasburg, and Basel; the county of Hanau Lichtenberg; the Ortenau; the island of Meinau in the Lake of Constance; seven free imperial cities; a part of the estates of the Teutonic order, and nine abbeys; together with the sovereignty over seven mediatized nobles of the empire, with a territory of 67 sq. Germ. m., and 222,000 inhabitants. The reigning Grand Duke Frederick succeeded his father in 1852, and married, in 1856, a daughter of King William of Prussia.

BADEN, a town and celebrated bathing-place of Lower Austria, on the E. bank of an affluent of the Danube, at the entrance of a fine valley, 18 m. SSW. Vienna. Resident pop., with the neighbouring townships of Guttenbrunn and Weikersdorf 4,150 in 1857. It is increased during the summer months by 3,000 visitors, amongst whom are usually the emperor and other members of the imperial family. The presence of mineral springs here was known to the ancients, by whom they were called *Aque Cotia*, from the neighbouring mountains; and in 1769, when the modern baths were constructed, the ruins of a Roman vapour-bath and other buildings were discovered. There are 16 baths, each capable of at once accommodating from 50 to 100 persons.

The waters, according to the analysis of Volta, contain sulphate and muriate of soda, sulphate and carbonate of lime and magnesia, sulphate of alumina, and considerable quantities of carbonic and hydrosulphuric acid gases: their temperature varies from 88° to 98° Fah. Next to the baths, the most remarkable buildings are, St. Stephen's Church, the palace of the Archduke Anthony, the town-house, and theatre. There are many well-built private houses; several hospitals and other charitable institutions; and a handsome park and public promenade: the neighbourhood abounds with natural beauties, and contains various ancient remains.

BADEN, a town of the grand duchy of Baden, famous for its hot baths, usually called Baden Baden, to distinguish it from the watering-place of the same name near Vienna, romantically situated in the Middle Rhine Circle, 24 m. SSW. Carlsruhe. Pop. 7,784 in 1861. It was formerly the constant residence of the margraves of Baden, and the grand duke still usually passes the summer in a villa here. The mineral springs were well known to, and appreciated by, the Romans, who planted a colony in it, and gave it the name of *Civitas Aurelia Aquensis*. The springs, thirteen in number, burst out of the rocks at the foot of the castle terrace. The temperature is not affected by the seasons: the hottest are 54° Reaumur,

the coldest 37°. A handsome building, in form of a temple, is erected over the *Ursprung*, as the principal spring is called. Dr. Granville, speaking of this spring, says—'The water is perfectly clear, has a faint animal smell, a taste somewhat saltish, and when drunk as it issues from the spring, approaching to that of weak broth.' According to a recent analysis, its specific gravity is 1.030. A pint of the water, containing 7.392 grains, contains 23.3 solid matter, the principal ingredient of which is culinary or common salt (16 grs.); the next in importance are the sulphate, muriate and carbonate of lime (6½ grs.); the remainder consists of a small portion of magnesia and of traces of iron, with about half a cubic inch of carbonic-acid gas in addition. There is here no public building appropriated exclusively to the purpose of bathing. The water is conveyed by pipes to the different hotels, in which there are numerous baths, some of these being very luxuriantly fitted up. Baden-Baden is one of the most beautifully situated of the German baths, even surpassing, in this respect, the Nassau Brunnen. The surrounding country, without the sublimity and grandeur of Switzerland, is distinguished by a pleasing and romantic wildness, and is, as it were, a prelude to the Alps. July and August are the season when the baths are most frequented; but visitors, to the annual number of from 12,000 to 20,000, come and go from May to October. There are a number of handsome buildings, among which, besides the temple over the *Ursprung*, the *Conversationshaus*, with its plantations, is conspicuous. The dungeons under the *Neue Schloss*, or palace, are supposed to have been the seat and prisons of some secret and dreadful tribunal; but nothing certain is known of their history.

BADEN, a town of Switzerland, cant. Aargau, on the left bank of the Limmat, 14½ m. NE. Aarau. Pop. 2,980 in 1860. It is surrounded by walls; is the seat of a tribunal of original jurisdiction; has a good town-house, a handsome Catholic church, two convents, an hospital, and a house of correction. The river is crossed by a wooden bridge. Baden is celebrated for its hot baths, known to the Romans by the name of *Therma Helvetica*; they are at a short distance from the town, on both sides the river: the water in the hottest baths has a temperature of 37° Reaumur: they are much frequented by the inhabitants of Basel and Zurich. The environs are very beautiful; and a number of fine cottages for the use of strangers are scattered over the neighbouring heights. The deputies of the Swiss cantons have often held their diets at Baden. The treaty between France and the Empire in 1714 was signed here.

BADIA, a town of Austrian Italy, prov. Polesina, on the Adige, 16 m. W. by N. Rovigo. Pop. 4,970 in 1857. It has a fine bridge over the Adige, and two convents for monks; with a manufacture of earthenware, and some trade in corn, silk, firewood, flax, and leather.

BADOLATO, a town of Southern Italy, prov. Calabria Ultra, 24 m. S. Catanzaro, situated on a hill near the sea. Pop. 4,052 in 1861.

BADONVILLER, a town of France, dép. Meurthe, on the Blette, 20 m. ESE. Lunceville. Pop. 2,711 in 1861. It has a manufactory of awls, which produces about 1,000,000 a year, with fabrics of cotton and earthenware.

BAECA, a town of Spain, prov. Jaen, 20 m. NE. Jaen. Pop. 11,735 in 1857. It is situated on a hill, in a fertile and extensive plain; has good streets and squares, one of the latter being adorned with a superb fountain. Among the principal public buildings are the Gothic cathedral, the col-

leges of the Jesuits and of the oratory, the chapel of the ancient university, and the prison. It has a collegiate church, several parish churches, convents for both sexes, three hospitals, an economical society, and some tanneries. Baeça is supposed to occupy the site of the ancient *Baia*, and it was the residence of several Moorish sultans, having been wrested from the latter in 1228. At this epoch its population is said to have amounted to 150,000; but this is probably an exaggeration. The bishopric, of which it was once the seat, was transferred to Jaen in 1248; and its university has also been suppressed.

BAENA (an. *Castra Finiana*), a town of Spain, prov. Cordova, 23 m. SE. Cordova, on the Marbella. Pop. (town and district) 11,607 in 1857. It has four parish churches and five convents. There are, in its environs, very productive salt mines.

BAFFA (an. *Paphos*), a sea-port town on the SW. coast of the island of Cyprus, lat. 34° 47' 20" N., long. 82° 26' 20" E. This inconsiderable town, not containing more than 1,000 inhab., occupies the site of the famous Paphos of antiquity, which, after being destroyed several times, was rebuilt by Augustus, and was thence called *Augusta*. During the occupation of Cyprus by the Venetians, Baffa was a city of considerable wealth and importance. It is now nearly deserted, and is filled with the ruins of churches and palaces that are everywhere crumbling to the ground. The bay is large; but the port, commanded by a castle on the beach, is shallow and unsafe. Caves, or rather dwelling-places, have been cut in several of the rocks in the neighbourhood, some of which are inhabited. The country round Baffa is fruitful, and produces considerable supplies of corn, cotton, and silk.

Old Paphos is supposed to have stood about 6 m. SE. of Paphos or Baffa, at a little distance from the sea. It was the favourite residence of Venus, *Dire potens Cyprî*, the place where the sea-born goddess first took up her abode, and was famous from a very remote epoch for its temples appropriated to her worship, and for the rites and processions performed by her votaries. Hence the epithets Paphian and Cyprian applied to Venus:—

'O Venus, regina Gnidii Paphique,
Sperne dilectam Cyprum.'—

It is worthy of remark that, according to Tacitus, the goddess was not represented at Paphos under the human figure, but under that of a cone. (Hist. lib. ii. § 3.) There were also temples and altars where sacrifices were offered to the goddess in New Paphos. The office of high-priest of the Paphian Venus was both lucrative and honourable. In proof of this it may be mentioned, that when Cato was sent to Cyprus, he represented to Ptolemy that if he submitted without fighting, he should not want either for money or honours, for the Roman people would make him grand priest of the Paphian Venus. (Larcher, *Mémoire sur Venus*, p. 42.)

BAFFIN'S or BYLOT'S BAY, a large inland sea, between Greenland and the NE. coast of America, between 68° and 70° N. lat., and 52° and 80° W. long. It extends, from SE. to NW., about 950 m.; its width varying from 350 to something less than 100 m. at its N. end. Its surface may therefore be estimated at about 266,000 sq. m., an area exceeding by more than a half that of the Baltic. In fact, however, it is much larger even than this; its natural boundaries being evidently Cape Farewell, the S. point of Greenland, and Cape Chudleigh, on the coast of Labrador, both nearly on the 60th parallel, and respectively in 45° and 60° W. long. Taking these for its dimensions, its surface will amount to 456,000 sq. m.; but it is usual to take for its limits

those first assigned, the additional S. part being nominated Davis's Strait. (Arrowsmith's Atlas, 140; Baffin's Voy., Purchas's Pilgrims, iii. 844-848; Ross's First Voy., 84-161; Parry's First Voy., 6-28.)

Modern discovery has shown that the NE. and N. coasts of America, as far as 120° W., are broken into innumerable islands, and that Baffin's Bay is connected with other great internal gulfs; such as that of Boothia (Ross's Second Voy., 93-116), and the larger basin of Hudson's Bay (Parry's Second Voy., 267-347), and also with the Polar Sea. (Parry's First Voy., 29-52.) The term *Mediterranean* cannot be therefore properly applied to this great expanse of water, since, large as it is, it is only one among a number of enormous gulfs in the singularly tortuous channel connecting the N. Atlantic and the Arctic oceans.

The water of this bay attains a great depth, the maximum being 1,050 fathoms, and this was found at no great distance from the land in lat. 72° 23' N., long. 73° 7½' W. The bottom must, however, be extremely mountainous, since 45 m. farther N. it was reached in 120 fathoms. The bottom in both cases was mud; and though, from the greater depth, of course, neither insect nor organic matter was procured, yet a small star-fish was found sticking to the line below the point marking 800 fathoms, an extraordinary depth for life in this lat., if the creature were brought up from the point indicated. (Ross's First Voy., 191, 192.) In different parts, Parry found no bottom in 260 fathoms and 310 fathoms, while in others his lead reached the ground in 200 fathoms, 125 fathoms, and 120 fathoms. He also, in a high latitude (74½°), found the depth to be 1,050 fathoms, but he imagined that 100 or 200 fathoms should be allowed on this for drift and swell. (First Voy., 7, 8, 23, 30.) The temperature of the water is, in summer, from 2° to 3° lower than that of the air in the shade; and this temperature decreases with the depth. It would seem, however, that the bottom mud is pretty uniformly at 29° or 29½°. (Parry's First Voy., 27; Ross's First Voy., Appen., 133.) The mouth of this bay or sea being towards the SE., that is, towards the approach of the tidal wave, tides are, of course, experienced in its waters; but they do not appear to rise to any great height, especially towards the N. Six feet or 8 feet seems about the average. (Ross's First Voy., 41, *et pass.*; Parry's First Voy., 27, *et pass.*) The melting of the vast masses of snow and ice produces very sensible differences in the appearance and composition of these waters: under such influence, they become turbid and of a dirty brown colour; their gravity diminishing, at the same time, very materially, so that the observed extremes in July, 1819, were 1.0261 and 1.0183. (Parry's First Voy., 7, 28.) Strong currents, setting towards the S., are experienced in Davis's Straits; and it was this fact which led to the belief that Baffin's Bay was not bounded by land upon the N., as marked by its intelligent discoverer; but would yield a direct passage, in the summer, to the Arctic Sea. (Ross's Official Instr., First Voy., 3.); but these currents were found not only to diminish in intensity with increase of lat., but even to run N. in the upper part of the bay (Parry's First Voy., 31); while the continuity of land round the bay-head was fully demonstrated by Ross, who, in 1818, followed very nearly the identical track which Baffin had sailed over 200 years before. (First Voy., 153, *et pass.*) Baffin's Bay is full of indentations upon both its coasts, but only one continuous channel has been discovered; this is the *Sir J. Lancaster's Sound* of Baffin, to the continuation of which to the Polar Sea, Parry gave the

name of Barrow's Strait. (First Voy., 52.) It runs W. from lat. 74° 30' 3" N., long. 78° 1' W. It is now in the highest degree improbable that any other outlet should exist from this bay in any direction. There are but few islands in these waters. Disco, on the E. coast, in lat. 70° N., long. 58° W. (mean), is a Danish whaling station; and Hare or Waygatt Isle, a little N. of the former, has acquired some celebrity as the place where one of the most modern experiments was made to determine the ellipticity of the earth. The acceleration of the pendulum between London and this place was 66.2386 vibrations in a mean solar day, showing a diminution of gravity from pole to equator, equal to .0055139, and a compression of the polar axis equal to $\frac{10}{8135}$. (Parry's First Voy., Appen., 166.) The land in the neighbourhood is mountainous, and in the last degree barren; wood is totally absent, and the few plants that are found are of the low-growing, hardy kind, fitted to endure the intense cold of these regions. (Ross's First Voy., Appen., 141-144; Parry's First Voy., *pass.*) The composition of the rocks is very various, but with an immense preponderance of old formations (granite and gneiss); limestone is found, but not abundantly; and trap *appears* to form a very characteristic feature of these shores. Basalt occurs; and rock of every kind is brought down on the floating ice. (McCulloch's Paper; Ross's First Voy., Appen., 69-82; Parry's First Voy., 26, *et pass.*) The birds and animals are those of the arctic regions generally (Edward's Paper; Ross's First Voy., 41-64); and in the water the whale and seal are particularly numerous. Parry, by showing the possibility of crossing through the ice, which always occupies the centre of the bay, performed an important service to the whalers, whose fisheries had before been confined to the coast of Greenland, where the whales are fewer in number, and inferior in quality to those met with on the American shore. (First Voy., 18-23, 29.)

The discovery of a NW. passage to India has been a favourite project for more than three centuries. In this attempt, Sebastian Cabot led the way in 1497, when he approached this sea as nearly as the 58th parallel of lat. He was followed by Martin Frobisher, who, between 1576 and 1578, made three voyages for the same purpose, entered between the shores of Greenland and America, and gave his name to the strait between Resolution and Cumberland islands. John Davis, between 1585 and 1587, made three voyages, and proceeded as high as 68° N. lat.; his name is very properly preserved in that portion of the sea which he traversed; but the term strait (DAVIS'S STRAIT) is not very appropriately applied to it, the narrowest part of the sea being 160 m. across. Lastly, in 1616, Robert Bylot, or Billeet, commanded an expedition, fitted out by private adventurers, for similar discoveries. Baffin was pilot of this ship; and the result was the exploration of the bay to its very head, and the ascertaining of all its points, sounds, and bearings, with a precision that has not been improved, except in the correction of some errors of longitude. Bylot and Baffin not having been followed by other navigators for more than 200 years, suspicions began to be entertained as to the authenticity of their statements; and Baffin's Bay (N. of 68°), if not actually struck out of the charts, was laid down in the greater number as doubtful. There never, however, was any probable ground for this discredit; and late discoveries have shown how unjust it was, and have placed the names of Baffin and Bylot in the first class of enterprising and trustworthy navigators. (Hakluyt's Collect. Voy., iii. 6-9, 29-96, 98-119; Purchas's Pilgrims, iii. 831-848, &c.; Ross and Parry, *pass.*)

BAFRA, a town of Asiatic Turkey, pach. Sivas, on the right bank of the Kizil Ernak, 18 m. above where it falls into the Black Sea; lat. $41^{\circ} 32' 52''$ N., long. $36^{\circ} 11' 45''$ E. Estimated pop. about 3,000. It has a fine bridge and two mosques. The environs are fruitful of rice and flax, and its bazars are said to be well supplied.

BAGDAD, an important prov. or pachalik of Turkey in Asia, of a triangular form, stretching NW. from the bottom of the Persian Gulf, in about 30° to 38° N. lat., and lying between the 40th and 48th degree of E. long., having W. and S. the Euphrates and the Arabian desert; E. Kuzistan, mount Zagros, and the Persian prov. of Azerbaijan; NW. the Pachalik of Diarbekr; and N., Armenia and the territories of the Kurdish chief of Julamerick. This immense tract extends over an area of above 100,000 sq. m., and comprises the whole of the ancient *Babylonia* and *Chaldea*, and the greater part of *Assyria Proper* and *Susiana*. Except where it is bounded on the W. by the Euphrates, the prov. is traversed in its whole extent by this great river and its rival the Tigris, and by the greater and lesser Zab, the Djalä, and other affluents of the latter. It is naturally divided into three portions, viz. 1st, the country between the Arabian desert and the Euphrates; 2nd, that between the latter and the Tigris, the *Mesopotamia* of the ancients; and, 3rd, the country to the E. of the Tigris. That portion of Mesopotamia S. of the city of Bagdad is now called *Irak-Arabia*, and that to the N. of Bagdad, *Algezirah*, or the island. The soil and appearance differ widely in different parts. At present its most fertile portion is that situated between mount Zagros and the Tigris, N. to Mosul. The tract lying between the two great rivers, one of the richest, best-cultivated, and most populous regions of the ancient world is now, in most parts, an absolute desert, through the misgovernment to which it has been subjected. 'The mighty cities of Nineveh, Babylon, Seleucia, and Ctesiphon have crumbled into dust: the humble tent of the Arab now occupies the spot formerly adorned with the palaces of kings; and his flocks procure but a scanty pittance of food, amidst the fallen fragments of ancient magnificence. The banks of the Euphrates and Tigris, once so prolific, are, for the most part, covered with impenetrable brushwood; and the interior of the prov., which was traversed and fertilised by innumerable canals, is destitute of either inhabitants or vegetation.' (Kinneir's Persian Emp., p. 237.) The country W. of the Euphrates is but of limited extent, and at a short distance from the river becomes an arid waste. The climate in the S. parts in June, July, and August, is exceedingly hot during the day; but the nights are always cool, and fires are absolutely necessary in winter. The prevailing wind is from the NW. The *Simoom* (see ARABIA) is more common at Bagdad than in other parts of the prov.; but, in general, it is fatal only to strangers, the Arabs being, in most instances, aware of its approach. It would be easy, were the government not proverbial for imbecility and ignorance, to restore some portion of the ancient prosperity of Mesopotamia. Few countries are blest with a finer soil, or are capable of being cultivated with less labour. The Euphrates and Tigris, which are seldom more than 50 m. apart, approach in the latitude of Bagdad to within 25 m. of each other, and afford an inexhaustible supply of the finest water. They rise twice a year (see EUPHRATES), and as the water is then nearly on a level with the surface of the plain, the irrigation, so indispensable to countries like this, is effected with the utmost facility. But the insecurity of property renders these advantages of no avail. Under the stupid despo-

tism of the Turks, the cultivators, liable at all times to have their fields laid waste and their habitations pillaged by the myrmidons of those in power, avoid, as much as possible, all sorts of labour. Here, as in all similarly situated countries, the natives restrict their tillage to the immediate vicinity of towns and villages; and it is only in rare instances, and under peculiar circumstances, that cultivation is prosecuted on a larger scale, and with anything like adequate vigour. The products of this naturally fertile region are alike various and valuable. Excellent crops are raised of wheat, barley, rice, maize, and other grains; tobacco, hemp and flax, cotton, &c., are cultivated; dates are an object of much attention, are reckoned of a peculiarly good quality, and are almost as much prized here as in Arabia. The mountains in the E. and N. parts of the prov. are covered with vast forests, consisting principally of oaks, which furnish the best gall nuts brought from the E. The horses of this prov. have been long renowned. They are small, being seldom more than 14 hands high, docile, never known to be vicious, and capable of undergoing a vast deal of fatigue. The camel, however, is at once the most common and most useful of the domesticated animals. Mules and asses are both met with in considerable numbers; buffaloes are kept for the sake of their milk, and oxen for agricultural purposes. Among wild animals are lions, panthers, hyenas, jackals, wolves, and wild boars. All sorts of poultry are bred except the turkey: ostriches are found in the deserts, and black partridges are common on the banks of rivers. There are no means by which to form any accurate estimate of the pop. of this pachalik; but it probably exceeds 1,800,000—a number hardly, perhaps, equal to the pop. of either Nineveh or Babylon. The pop. consists of Turks, Arabs, Kurds, Turkmana, Armenians, and Jews. The prov. is only partially subject to the Porte. The chiefs or sheiks of the Arabs and Kurds, who are masters of the whole country beyond the precincts of the towns, are frequently at open war with each other. They are bound to furnish the pacha with a certain number of troops and a certain amount of tribute; but these contingents are always very irregularly paid; and, in many instances, the chiefs acknowledge only a nominal dependence on the Porte.

BAGDAD, a famous city of Asiatic Turkey, long the cap. of the caliphate, and now of the above prov., on the Tigris, about 196 m. in a direct line from the junction of the latter with the Euphrates. Lat. $33^{\circ} 19' 40''$ N., long. $44^{\circ} 24' 45''$ E. Pop. variously estimated, but may probably amount to about 90,000, principally Arabs and Turks. It stands on both banks of the river, which is here about 620 feet across, but the larger portion is on the E. side: the communication between its two divisions is maintained by means of a bridge of boats. It is of an oblong shape, is surrounded by a high wall of brick and mud, about 5 m. in circ., flanked at regular distances with towers, some of which, of an immense size, were built by the earlier caliphs. There are 6 gates, 3 on each side the river. The castle at the N. corner of the city commands the passage of the Tigris, but is a place of no strength. The town is meanly built; streets so narrow that where two horsemen meet they can hardly pass each other. The bazars, though extensive and well supplied, are far from handsome. Few of the ancient buildings remain; but these few are far superior in elegance and solidity to the more modern structures. Of the former, the most worthy of notice are the gate of the Talisman; a lofty minaret built in 785; the tomb of Zobeida, the most beloved of the wives of Haroun-al-

Raschid. The famous *Madressa Mostanseroi*, or college founded in 1233 by the caliph Mostanser, and long the best attended and most celebrated seminary in the E., still exists; but *quantum mutatus!* It is converted into a khan or caravansera, and its old kitchen into the custom-house! (Niebuhr.) Nothing remains of the far-famed palace of the caliphs; *etiam ruina perire*; and the spot where it stood is not even ascertained. The only handsome modern edifice is the tomb and sanctuary of a famous Sooni doctor, the patron saint of the town, who flourished anno Hegira 560.

Bagdad was recently a place of great trade, and the resort of merchants from almost every quarter of the E. It supplied Asia Minor, Syria, and part of Europe with Indian commodities, which were imported at Bassora, brought in boats up the Tigris, and then transported by caravans to Tocat, Constantinople, Aleppo, Damascus, and the W. parts of Persia. The chief imports from India are gold brocade, cloths, sugar, pepper, tin, sandalwood, iron, china-ware, spices, cutlery, arms, and broad cloth; in return for which they send bullion, copper, gall-nuts, tamarisk, leather, and otto of rosea. From Aleppo are imported European silk stuffs, broad cloth, steel, cochineal, gold thread, and several other European articles, brought in Greek vessels to Scanderoon. The imports from Persia are shawls, carpets, silk, cotton, white cloth, leather, and saffron; and those from Constantinople are bullion, furs, gold and silver thread, jewels, brocade, velvets, and otto of roses. The principal manufacture is that of red and yellow leather, which is much esteemed; but silk and cotton stuffs are also produced. Of late years, however, the trade of the city has a good deal declined, in consequence principally of the inability of the government to repress the attacks and exactions of the Arabs.

The climate, notwithstanding its great heat, is admitted to be very healthy; but the natives are, without exception, the ugliest people in the Turkish empire, and are universally subject to a cutaneous disorder similar to that which prevails in Aleppo (which see). In this city, though the former cap. of the scientific world, reading and writing are rare accomplishments; and when Niebuhr was here, there was not a dealer in books in the town, nor any means of procuring a single volume.

Bagdad was founded by Al Mansour, second caliph of the Abassides, A.D. 763, and is said to have been principally formed out of the ruins of the ancient city of Ctesiphon. It was greatly enlarged and adorned by the grandson of its founder, the famous Haroun-al-Raschid. It continued to flourish, and to be the principal seat of learning and the arts, till 1259, when it was taken and sacked by Holakoo, grandson of Genghis Khan. It has since undergone various changes, and has successively fallen into the hands of the Persians and Turks. The latter, however, have held it since 1638, when it surrendered, on capitulation, after a brave resistance. The terms of the capitulation were, that the lives and property of the inhabitants should be saved; but the blood-thirsty conqueror, Amurath IV., regardless of this convention, barbarously massacred a large proportion of the inhabitants. It was ineffectually besieged by Nadir Shah. (Kinneir's Persia, pp. 246-252; Niebuhr, Voyage en Arabie, ii. pp. 289-267.)

BAGNA-CAVALLO, a town of Central Italy, prov. Ravenna, on the Sino, 12 m. W. Ravenna. Pop. 13,527 in 1861. It has establishments for the spinning of silk; and large quantities of hemp are cultivated in its environs, which are also productive of corn, &c.

BAGNA LOUKA, or BANGALUKA, a town

of European Turkey, in Bosnia, on the Verbas, cap. sanjak, 80 m. S. Gradiaska; lat. 44° 58' N., long. 17° 3' E. Pop. estimated at 7,000. It stands in a fertile valley, is defended by a castle, and was for some time the cap. of a pachalik. It has numerous mosques, two public baths, a powder manufactory, which furnishes the best in the country, and various bazars. The inhabitants are partly Turks and partly Greeks and Jews. Splendid horses are bred in the environs of the town, and throughout the sanjak.

BAGNARA, a town and castle of Central Italy, prov. Ravenna, on the Santerno, 7 m. NNW. Faenza. Pop. 1,746 in 1861.

BAGNARA, a sea-port town of Southern Italy, prov. Reggio, 16 m. NE. Reggio. Pop. 8,587 in 1861. It has a considerable trade in Muscat wine, produced in the vicinity, and in wood and tar. Bagnara suffered severely from an earthquake in 1783. It is supposed by some geographers to be the *Portus Orestis* of the ancients.

BAGNAREA, a town of Central Italy, prov. Viterbo, 16 m. N. Viterbo. Pop. 2,897 in 1861. It is situated on a hill, and is the seat of a bishopric.

BAGNÈRES-DE-LUCHON, a town of France, dép. Haute Garonne, 24 SSW. St. Gaudens. Pop. 3,876 in 1861. It is situated in the beautiful valley of the Luchon, at the foot of the Pyrenees, within about 5 m. of the Spanish frontier. It is celebrated for its mineral waters, which, as well as those of Bagnères-en-Bigorre, were known to the Romans. The town is increasing and improving, and possesses all the establishments peculiar to a well-frequented watering place. The Hôtel des Thermes is the principal edifice. In winter the climate is very severe, and the town is deserted not merely by visitors, but even by a portion of its inhabitants. There are nine mineral springs, all of which issue from a rock at the foot of the adjacent mountains; their temperature varies from 26° to 52° of Reaumur; they have a fetid smell, and are said to be very efficacious in a variety of complaints. More invalids resort to Bagnères-de-Luchon than to either Bagnères-en-Bigorre or Bourges. The season lasts from May till October, and upwards of 1,500 strangers may be accommodated. The avenues of trees leading to the baths are as fine as can be imagined. In the neighbourhood of the town, among the Pyrenees, is the wild solitary lake of Seculego.

BAGNÈRES-EN-BIGORRE, a town of France, dép. Hautes Pyrenees, cap. arrond., on the left bank of the Adour, in a delightful situation at the entrance to the valley of Campan, and the foot of a finely-wooded hill, 18 m. SSE. Tarbes. Pop. 9,169 in 1861. Bagnères is the Bath or Cheltenham of France, and is indebted for its celebrity and importance to its hot mineral springs, which were known and resorted to by the Romans. The waters have no peculiar taste, but are aperient and tonic. During spring and autumn the town is crowded with invalids and pleasure-hunters from most parts of France, and by many foreigners, particularly Russians and English. The town has not been built on any regular plan, but has increased according to the influx of company. It has some good streets, with very excellent houses, and good inns and hotels. Streets well paved, clean, and well watered. The promenade, called *Consolans*, in the centre of the town, is ornamented with a fountain; there are several delightful drives and promenades in the vicinity; and it also affords the finest excursions for the botanist, mineralogist, and the lovers of the picturesque. There are 18 or twenty baths: 'Each is under the direction of a medical inspector, who must be consulted before

any one is permitted to employ the waters. He is paid by government; and therefore the consultation costs nothing; and the expense of the bath is not more than a franc.' (Ingli's Switzerland, p. 264.) The principal bath, or that called *Du Salut*, is situated in a ravine about $\frac{1}{2}$ league from the town. Bagnères has a court of original jurisdiction, a college, an hospital, with a theatre, concert hall, and numerous places of entertainment. It has also fabrics of banios (a kind of woollen stuff), linen, étamines, crape, and paper. On the road to Tarbes is a monument in black and white marble, in honour of Count Segur.

BAGNOLES, a village of France, dép. Orne, in a solitary valley, 13 m. E. by S. Domfront. This village, celebrated for its mineral springs, was built in the 17th century, the springs having been discovered in the preceding century. During the last twenty years it has been embellished with some new and elegant buildings, and in its environs are extensive plantations that afford fine promenades. In 1822 an establishment for the use of the military was founded here, capable of accommodating about 200 invalids. The temperature of the water is about 26° centigrade. This is the only mineral spring in the ci-devant prov. of Normandy.

BAGNOLI, a town of Southern Italy, prov. Sannio, 9 m. SW. Trivento, on the declivity of a hill. Pop. 4,608 in 1861. It has five churches, an abbey, and an hospital.

BAGNOLO, a town of Northern Italy, 8 m. S. Brescia, on the high road from Brescia to Cremona. Pop. 2,891 in 1861.

BAGNOLO, a town of Southern Italy, prov. Principato Ultra, on the declivity of Monte Calvello, 9 m. SW. St. Angelo de Lombardi. Pop. 4,816 in 1861. It has a fine collegiate church, and several convents.

BAGNOLES, a town of France, dép. Gard, cap. cant., near the Ceze, on a rock 25 m. NNE. Nismes. Pop. 5,060 in 1861. It is generally ill-built, but has a good square, adorned with a public fountain. It has a college, an hospital, with filatures of silk, dye works, hat makers, and tanners.

BAGOLINO, a town of Northern Italy, prov. Brescia, on the Caffaro, 24 m. NNE. Brescia. Pop. 3,950 in 1861. It has several forges for the manufacture of iron and steel.

BAGULCOT, a subdivision of the district Darwar, Hindostan, prov. Bejapoor, presid. Bombay, including the pergunnahs Bagulcot and Badaumy. Shape irregular; length 54 m., breadth 44 m.; area about 1,280 sq. m. Pop. estimated at about 100,000. It is bounded NE. by the Krishna river, but is badly watered, as well from the want of running streams and large wells, as the general deficiency of rain, which in some years does not exceed 26 inches, a quantity surpassed in one month of the SW. monsoon near the coast. Garden culture is consequently very limited, and most of the villages are on the banks of the larger rivers. In 1820 these pergunnahs contained 319 inhabited townships, including the towns of Bagulcot, Badaumy, Keroor, Seroor, and Perwatce. Under the Mahrattas, who obtained them in 1755, they were the theatre of violence and rapine; but after their transfer to the British gov. in 1818, a rapid and complete change took place, and they soon became singularly noted for the absence of crime.

BAGULCOT, a town of Hindostan, cap. of the above district, and of a pergunnah. Pop. estimated at about 9,000. It is the residence of the principal merchants and bankers.

BAGUR, an inland division of Hindostan, anciently described as a separate, though minor

prov., but more recently attached to the prov. Malwa and Gujrat, between which it lies, in about 24° N. lat., and 74° E. long. It consists of a hilly country, the several ranges of which run N. and S., decreasing in height from Malwa to Gujrat, and mostly covered with thick low jungle forests of teak, black-wood, &c. It is indifferently watered, and the climate for a considerable part of the year is reckoned unhealthy. From the first cause the ground is comparatively unproductive; the digging of wells, &c., is also attended with great labour and expense, but reservoirs are sometimes constructed by throwing an embankment across the stream of a narrow valley. The pop. consists chiefly of Bheels and Meenas, under various petty chiefs: many vestiges of antiquity lie scattered over its surface; but at present this division contains no inhabited places of any importance, except the towns of Doongurpooz, Bauswarra, and Sangwara.

BAHAMAS (THE) consist of several hundred islands, of various magnitudes, extending in a SE. and NW. direction, between Hayti and Florida, nearly 600 m. from Turk's Island, in 21° 23', to the Mantanilla Reef, in 27° 50' N. lat., and from 70° 30' to 79° 5' W. long. They are mostly of coral-line formation, low, flat, and but scantily covered with soil, and the greater number of them uninhabited. They belong to great Britain. St. Salvador, one of these islands, was the first land discovered by Columbus, on the 12th of Oct. 1492. Like the neighbouring islands, it was densely peopled by Indians, who were harmless and inoffensive. The most important of the group, however, from its harbour and situation with respect to the Florida channel, is New Providence; and as this is the residence of the governor, the seat of the legislature, and the head-quarters of the troops, and as it differs from the other islands in no essential degree, we shall confine ourselves to an outline of its geographical features and general appearance, deeming it unnecessary to dwell upon any of the others. It lies in lat. 25° 29' N., and in long. 76° 34' W., and extends about 21 m. from E. to W., and 7 from N. to S. It is nearly covered with large trees and brush-wood, and much intersected with marshes and lagunes. A range of slightly elevated hills runs along a part of the island at a very short distance from the sea; and upon the face of this ridge stands Nassau, the capital, and the seat of government. Another range of hills runs parallel to the former, at the distance of about 2½ m.; the whole of the intervening space forms an extensive marsh. The total number of sq. m. in the Bahamas, including all the islands from New Providence to Key Sal and Anguilla, is, according to Porter's Tables, 5,424; but the 'Statistical Tables' relating to the Colonial and other Possessions, presented to Parliament in 1865, state the area at only 2,921 Engl. sq. miles. The pop., in 1832, was 4,674 whites, 4,069 coloured and free blacks, and 9,765 slaves. In 1837 the total pop. was 19,943. In 1861 the number had risen to 35,287, of whom 29,287 coloured persons. The inhabitants are divided into the two classes of residents and *wreckers*. The latter are mostly employed in rescuing vessels, with their crews and cargoes, shipwrecks being very frequent in these intricate, shallow, and dangerous seas. They sail in small flat-bottomed sloops, admirably fitted for the waters they navigate. They are excellent sailors; are familiar with all the keys, shoals, and breakers; and encounter danger with alacrity and courage. Their great places of rendezvous are the Florida Gulf, the Hole in the Wall, and the Hog-sties. Their vessels are very numerous.

They are licensed by the governor, and receive a salvage on all property rescued from the waves. The climate varies very considerably, both in temperature and salubrity, according to the geographical position and local peculiarities of the islands. At New Providence the weather, during the cold season, which extends from Nov. to May, is extremely pleasant; the thermometer in the shade being generally from 60° to 70°, the mid-day heat tempered by a constant breeze; and the evenings cool and agreeable. From May to Nov. the heat increases or decreases, as the sun advances or retires from the tropic of Cancer, and during this period the range of the thermometer is from 75° to 85°, seldom rising above 90°. The increase of temperature is generally accompanied by southerly winds or calms, which are described as being very oppressive. A considerable quantity of rain falls during the year, but we possess no exact measurement of it. The spring rains commence about May, and continue for a few weeks; those of autumn commence in Sept., and generally terminate in Nov. or Dec. During the autumnal months fogs are very frequent in the mornings and evenings; but from Dec. to May the weather is generally fine, clear, and dry. It is impossible to ascertain the exact amount of acres cultivated, as owing to the rocky nature of the islands, spots are generally selected to plant in, without any attention to the regularity observed in more favoured soils; but the number of persons set down in the official tables as employed in agriculture are 4,250. The chief articles of produce are rice, coffee, Indian and Guinea corn, potatoes, yams, beans, peas, pine-apples, cotton, ochres, casada, pumpkins, arrow-root, onions (of which a great quantity are raised), oranges, limes, and lemons. There may be about 12,000 acres of pasture, which give support to 1,490 horses, 2,765 horned stock, 7,890 sheep and goats, and 3,350 swine. The principal articles of export, in the year 1862, were cotton and fruit, the value of the former amounting to 309,649*l.*, and of the latter article to 345,246*l.* The total exports in the year 1862 were of the value of 1,007,775*l.*; the articles, including coffee, to the value of 22,087*l.*; copper, to the value of 15,800*l.*; sponge, to the value of 13,724*l.*; sugar, to the value of 10,282*l.*; and silk, to the value of 8,891*l.* The total imports in 1862 amounted to 1,250,322*l.*, of which 213,087*l.* for cotton. This shows that a great part of the commercial activity was owing to intercourse with the so-called Confederate States of America. The number of tons of British shipping employed inwards was 83,354 in 1862. The total shipping, both British and foreign, amounted to 107,446 tons. The government consists of a governor, a council of twelve, and a house of assembly of thirty members. The courts of law are the supreme court, which holds its sessions in terms of three weeks, with the powers of the common law at Westminster, and its practice modelled on that of the King's Bench. The revenue of these islands for 1863 was 74,511*l.*, and the expenditure 53,409*l.* New Providence was settled in 1629 by the English, who kept possession of it till 1641, when they were expelled by the Spaniards, who murdered the governor, and committed many acts of barbarous cruelty. It was recolonised in 1666 by the English a second time; but they were again expelled by the French and Spaniards in 1708, and from that period it became a rendezvous for pirates, till formally ceded to the English in 1783, in whose possession, with the other islands, it has since remained. The proportion of the 20,000,000*l.* of compensation granted by Britain awarded to the inhabitants was

128,340*l.* 7*s.* 5*d.*, while the relative value of the slaves was 290,573*l.* 15*s.* 8*d.*

The principal islands forming the Bahama group are, New Providence, containing the capital, Nassau; Andros Island, Green and Grassy Keys, Grand Bahama, and the Berry Islands; Great and Little Abaco and Keys, Harbour Island, Eleuthera, Royal Island and Keys; St. Salvador and Little Island; Watling's Island and Rum Key; Great and Little Exuma and Keys; Ragged Island and Keys; Long Island; Crooked Island, Fortune Island, and Acklin's Island; Great and Little Heneagua, Mayaguana; French and Attwood's Keys; the Caicos Turk's Island, Key Sal, and Anguilla.

BAHAR or BEHAR, an incl. prov. of Hindostan, presid. Bengal, one of the largest and most important under the British dominion. It lies chiefly between 22° and 27° N. lat., and 85° and 87° E. long.; having N. Nepal, W. Oude, Allahabad, and part of Gundwana; S., the latter prov.; and E., Bengal: area, 53,744 sq. m. Pop. estimated at about 9,000,000.

The Ganges runs a course of 200 m. through this prov., W. to E., dividing it into two nearly equal parts. The other chief rivers are the Sone, Gunduck, Dummodah, Caramassaa, and Dewah, all tributaries of the former: there are numberless smaller streams, and the prov. generally is well watered, especially its N. portion; in the S. irrigation is artificially effected by means of wells, dams, and trenches. It may be described under three divisions; one an uninterrupted flat extending for 70 m. N. of the Ganges, to the forests of Nepal and Morung; a second, or central div. extending 60 m. S. from the Ganges, consisting only in part of plains, but yielding nearly two-thirds of the whole annual produce of opium; and a third and more elevated region, S. of the latter, with an area of 18,000 sq. m., less fertile than the others, but said to contain diamond mines, and thence called Nagpoor. Climate temperate, but in the hot seasons parching winds from the W. often prevail during the day. Frosts are rare, but during the cold seasons the thermometer often ranges from 35° to 70° (Fahr.) in the course of the day, among the hills; and in this district the winds are very bracing to European constitutions. No diseases are peculiar to the prov., but bronchocele is very prevalent on the N. side of the Ganges. Soil fertile, and productive of the drier grains: it also produces large quantities of nitre, with sulphate and muriate of soda, especially N. of the Ganges, where nitre is a gov. monopoly. Agriculture, commerce, and manufactures have always been in a comparatively flourishing state in this prov.; partly from its central position, easy internal communications, and being a thoroughfare for the trade of Bengal with the Upper Provinces; and partly from its fruitfulness and natural fitness for tillage. Here, however, as well as in Bengal, only about one-third part is supposed to be under cultivation. (Hamilton's E. I. Gaz., i. 177.) Opium, a staple commodity of the prov., is perhaps the best in India. It is a gov. monopoly, Bahar and Benares being the only provs. within the Bengal presid. where it is allowed to be cultivated. For further particulars see BENGAL.

Indigo is very extensively grown in Tirhoot, where much forest land, and land formerly used for grain, has been appropriated to its culture, and where the produce is also manufactured upon a large scale. The planters and cultivators are now on good terms with each other; and since it was agreed that only one planter should settle in a village, quarrels among the latter have also ceased. The people in the indigo districts are said to be in a much better condition than else-

where. Sugar-cane, betel, tobacco, and grain of all kinds, are cultivated largely, and there is a good stock of cattle. Most part of the lands in Bahar are held in small lots by cultivators or *ryots*, who pay a land tax of half the produce: the permanent settlement has been by no means so widely established as in Bengal; jaghires are there rare, but frequent here; while, on the other hand, there are in Bahar but three large zemindaries, viz. those of Shahabad, Tirhoot, and Tickary. This arises from the circumstance that the zemindars of Bahar were always inferior in power and influence to those of Bengal, and their zemindaries much smaller; so that they were sooner and more easily identified with the body of cultivators.

The chief manufactures are, cotton cloths for exportation, essences, and saltpetre, the manufacture of which scarcely passes the E. limits of the prov. Bahar is divided into eight districts or collectorates, viz. Bahar, Bhaugulpore, Dhurrum-pore, Ramgur, Shahabad, Sarun, Tirhoot, and Patna. The chief city is Patna. The natives have a finer physical appearance, but are inferior to their Bengal neighbours in cleanliness and domestic economy. In the S. parts agriculture is wholly carried on by slaves; and many of these consist of individuals who, by a practice peculiar to this prov., mortgage their labour until able to redeem a debt: a third part of the pop. are Mohammedans. This prov. anciently is supposed to have formed two independent sovereignties—that of Mithila in the N., and Magadha in the S.; and distinct languages still continue to be spoken in them. It was acquired from Cossim Ali by the British in 1765, since which it has enjoyed perfect tranquillity. The city of Gaya was the birthplace of Buddha, but no Buddhists now remain in Bahar.

BAHAR (DISTR. or ZILLAH OF), occupies the central portion of the above prov.; being bounded N. by the Ganges; E. by the distr. of Bhaugulpore; S. by those of Bhaugulpore and Ramgur; and W. by Shahabad: extreme length, E. to W., 120 m.; breadth, 80 m.; area, 5,235 sq. m. The population is estimated at 3,000,000, of whom about one-third are Mohammedans. Surface generally level, especially in the N., where the banks of the Ganges are highly cultivated: there are, however, many scattered hills, and three principal ranges, in the heart of the distr., of primitive formation, containing granite, gneiss, mica, quartz, jasper, hornstone, silica, &c.; but, except toward the S. boundary, none of them probably exceed 700 ft. in height. Next to the Ganges, the chief river is the Sone, its channel being sometimes nearly as large as that of the former; its E. banks are overwhelmed with sand, blown up from its bed in the dry season: there are no lakes, and few marshes in this distr., although in the wet season much of the country is under water. There are many hot springs in various spots; bituminous and other volcanic substances have been also met with, and in one place an extinct crater is distinctly visible. About 490 sq. m. are covered with woods and thickets, including the bamboo, palm, mango, fig, apple, pomegranate, &c., which are all cultivated (tamarisk and zizyphus bushes in large quantity); the *strychnos*, *nux vomica*, soap-nut, and the *salhar*, believed by Mr. Colebrook to be the tree yielding gum olibanum. The chief wild animals are a large and formidable black bear, the spotted tiger, ichneumon; a few monkeys, squirrels, foxes, and dogs; many birds of prey; porpoises, and a profusion of fish, are found in the Ganges, as well as alligators; but there are no wild elephants, rhinoceroses, or buffaloes; few tigers, and neither parrots, &c., nor singing birds. The lands near the river yield two crops in the year, but this is

not the case with more than 1-8th part of the arable land in the interior. Rice is by far the most important article of culture, but the ears only are reaped; the straw being abandoned to the cattle, or left uncut, till wanted for thatch. Cotton has been extensively grown since the commencement of the American civil war, and the failure of the supply from the Mississippi cotton regions. Wheat is next in importance; and with it, or with pulse, barley is often sown; maize is almost wholly confined to the banks of the Ganges. Cruciferm plants, linseed, and sesamum, are cultivated for their oil; ginger, coriander, capsicum, the potato and other succulent vegetables, are likewise grown. The plough and cattle used are both wretched, though the latter are somewhat better than those more to the E.; the grain is trodden out by cattle, and kept by the more opulent proprietors in hovels of mud and thatch. The *ashraf*, or higher ranks, pay no rent for land occupied by their houses, and no landlord may refuse to grant them land for building; but Europeans, not being dignified with the title of *ashraf*, find much difficulty in obtaining it. Few of the cultivators are rich. A large portion of the land, perhaps about a half, is exempted from the land tax; and yet it is affirmed, and we believe truly, that the taxed portions are the best cultivated and most productive. Some of the rent-free estates are still large, but, owing to the rules of inheritance, they are rapidly subdividing; and many of the zemindars are reduced to the condition of peasants, or are but little above beggary. Many occupiers are in the habit of receiving advances from their landlords, to enable them to carry on their business; while others borrow money for the same purpose, at 2 per cent. per mo. interest; and, ruinous as such payment may appear, the latter are universally observed to be in the end the best off. The cultivators are not subject to the illegal exactions that press on the tenantry in Bengal, and are in consequence attached to their landlords, and ready to promote their interests. Bahar distr. is divided into twelve *pergunnahs*; it contains a number of considerable towns, one of which, Gaya, the birth-place of Buddha, is celebrated as a place of pilgrimage, and annually visited by nearly 80,000 devotees: there are a great many small towns, of from 100 to 500 houses. Cotton stuffs, blankets, and carpets, are manufactured; with paper, soap, leather, bricks, &c.; and there are extensive nitre factories and sugar refineries.

Tradesmen have very little capital; general dealers seldom more than 25 rupees, and many of the dealers in grain no more than 400 rupees. The people are of a warlike disposition, passionate, and jealous; the habits of the women proportionally strict. The great subdivision of property has banished every thing like opulence; and marriages and funerals, by the expenses they cause, often bring families to poverty. The houses are neither so well built nor so clean as those met with in Bengal. Drinking to excess, betel chewing, and smoking, are not, however, pursued so far. Among other customs of this distr., girls are never married till puberty: the feet of dying persons are not put into the Ganges; but the parents and children, not of the vulgar, but of 'men of rank and learning,' are turned out of doors when they are about to die, exposed to all the inclemency of the weather. This odious custom, which would disgrace a nation of savages, has been in numerous cases perverted to the most infamous purposes.

BAHAR (*Vihar*, a monastery of Buddhists), a town in the above prov. and distr., in lat. 25° 13'

N., long. $85^{\circ} 85'$ E.; 85 m. SE. Patna. It is a large, straggling place, containing about 5,000 houses, and probably, therefore, about 80,000 inhab. It has few or no good streets; most of its public buildings are in a state of decay; and it has a ruinous appearance. It is supposed to have been at some remote era the cap. of the prov. The plain on which it stands is well watered, fertile, and well cultivated.

BAHAWULPOOR, or DAODPOOTRA, a territ. of Hindostan, formerly belonging to Caubul, but subsequently tributary to the maharajah of the Punjab, between lat. 28° and 30° N., and long. 70° and 74° E.; length NE. to SW. 280 m.; greatest breadth 120 m.; having N. the Punjab; E. the Bikanere territ. (Rajpootana); S. and SW. Jaysulmere and Sinde. Its NW. boundary is for the most part formed by the Sutleje, but for a certain distance opposite the cap. it includes both banks of that river, as well as those of the Chinnauf. The banks of the rivers are everywhere fertile; but the rest of the country towards the E. is a mere desert. For 4 or 5 m. on either side the Sutleje, the soil is formed by the slime deposited by that river, and is annually watered by its inundations: some portions of it are highly cultivated; others are covered with a soft turf, and the rest with jungle and coppice of low tamarisk trees, abounding with wild hogs, wild geese, game, &c., but having interspersed many small hamlets. The inhabs are chiefly Juts and Belooches, Mohammedans, who came thither from the district of Shikarpore, where they were settled early in the reign of Aurungezebe. They are a fair and handsome race, and apparently in a better condition than some of their neighbours. Lieut. Conolly says, 'As soon as we had crossed the frontier (from Shikarpore) into Bahawal Khan's territory, we were struck with the improved appearance of the land; the ground was cleared, and cultivated with the better sorts of grain; the people, also, seemed more orderly and respectable.' The principal towns are Bahawalpoor, Ahmedpoor (the residence of the chief), Julalpoor, Seedpoor, and Ooch. Durawal, an ancient fort in the desert, is the only place of strength in the country. The public revenue is about 10 lacs rup. a year. The khan maintains an army of about 2,000 regular troops; but in time of war he can raise more than 20,000 men. The government is despotic; but not a few of the khans have ruled mildly and paternally, much beloved by their subjects. This territory was taken from the Moguls by the Persians, and, after the death of Nadir Shah, belonged to Caubul, to which kingdom it was tributary as long as the monarchy lasted. The three last rulers have been nearly independent; but the political power of the country has been broken by the Sikhs, and the rajah of the Punjab only spared it on condition of pecuniary payments. (Elphinstone's Caubul; Burn's Trav.; Hamilton's E. L. Gazetteer.)

BAHAWULPOOR, the ancient cap. of the above territory, near the S. bank of the Sutleje, 820 m. WSW. Delhi, lat. $29^{\circ} 21'$ N., long. $72^{\circ} 10'$ E.; at the point of junction of the road leading from Bombay and Calcutta to Caubul. It is about 4 m. in circ., but includes gardens and mango groves. It is surrounded with a thin wall of mud, the houses being of unburnt bricks, with mud terraces. The inhab. consist chiefly of Hindoos, mostly occupied in the manufacture of the silken girdles and fine turbans for which Bahawalpoor is celebrated. The Hindoo traders are distinguished by their enterprise; they deal extensively in European goods, which they receive by way of Bikaner, and carry these and the productions of India

to Balkh and Bokhara, and sometimes to Astrakhan. The Sutleje is navigable, but not used in the transport of merchandise. Notwithstanding the manufactures and trade of Bahawalpoor, the town shows many symptoms of general decay. (Elphinstone's Caubul; Conolly's Journey, ii. 243.)

BAHIA, a marit. prov. of Brazil, on the E. coast, extending from about 9° to $15^{\circ} 45'$ S. lat. It comprises, as at present divided, nearly all the territory included formerly under the ancient captaincy of the same name, together with a portion of that of Ilheos. It derives its name from *Bahia de Todos os Santos*, and is bounded N. by the provinces of Sergipe and Pernambuco (from the latter of which it is divided by the Rio San Francisco); on the S. by Porto Seguro and Minas Geraes; on the W. by Pernambuco, though still separated by the Rio San Francisco, and on the E. by the ocean. Its length is estimated at about 480 m., and its breadth at from 150 to 200. The estimates of its area vary from 54,000 to 97,000 sq. m. The latter, we are inclined to think, is nearest the mark. The accounts of the pop. are also very various, no census having ever been taken, the number is generally estimated at between 700,000 and 800,000. The province is subdivided into three comarcas, viz. Bahia, Jacobina, and Ilheos.

The province of Bahia is traversed from SW. to NE. by the Serra Cincora, Giboya, and Itabayana. The Serra de Montequieva forms the chief ridge in the interior. Bays and inlets abound along the coast, among which the most celebrated is All Saints' Bay. Numerous rivers traverse the province, and the Rio San Francisco, one of the largest of the Brazilian rivers, flows along its NW. frontier.

The cultivation of tobacco is peculiar to the province, and its produce is much sought after, not only for the market of Portugal, but also for Spain and the whole of Barbary. The soil is admirably adapted to the cultivation of the sugar-cane; and the sugar of Bahia bears a high character for its excellent quality, which is shown by the fact that Bahia exports more sugar than the whole of the rest of Brazil. The growth of cotton exhibits an unusual increase, and Bahia is already become a formidable rival to Pernambuco. The other productions are, rice, of a superior quality; coffee, much excelled however by that of Rio de Janeiro; and Brazil-wood, equal to that of Pernambuco. (Report of Mr. Consul Morgan on the Trade of Bahia for the Year 1864.)

The province of Bahia was one of the first peopled by Europeans, and it is also one of those from which they have most effectually removed all traces of the original inhabitants.

BAHIA, or SAN SALVADOR, the cap. of the above prov., immediately within Cape St. Antonio, which forms the right or E. side of the noble bay of All Saints (*Bahia de Todos os Santos*), whence the prov. and the city derive their names; lat. (of lighthouse on Cape St. Antonio) $13^{\circ} 0' 30''$ S., long. $38^{\circ} 30'$ W. It was founded about 1549, by Thomas de Souza, first captain-general of Brazil, and was, until 1763, the capital of the colony. Since that period Rio has been acknowledged as the capital, and it also has been the residence of the court since its emigration to Brazil. But, though now inferior to its rival in population and commercial importance, Bahia is one of the largest and most important cities of S. America. The estimates of the population vary from 150,000 to 180,000, of which a third are supposed to be whites, a third mulattoes, and a third blacks. It is built partly along the ridge, and partly on the declivity, of a very high and steep hill fronting the entrance

of the bay. It consists of an upper and a lower town, the former including the suburbs of Bom Fim and Victoria. The upper town stands on the ridge between the sea and a lake on the N., and contains several fine streets, in which reside the principal inhabitants of the city. The lower town is extremely dirty, and although the streets are very narrow, it is no uncommon thing to see them occupied by artificers, with their tools and benches. The city is defended by Fort do Mar, and some other fortifications, but none of them are of any very great strength. The local revenue is derived from direct taxes on land and provisions, excise upon exports and imports, and harbour-dues. Land is subject to a tax of one-tenth of its produce, and, since the revolution, church lands have also been rendered subject to the same impost, and the clergy are paid by the government. The taxes on provisions, which include beef, fish, flour, and vegetables, are annually farmed out in separate parishes. As respects the number and beauty of its public buildings, Bahia ranks first among the cities of Brazil. In the upper town, amongst the chief may be enumerated the cathedral (formerly the church of the Jesuits), dedicated to San Salvador, built of European marble, and considered the handsomest ecclesiastical building in Brazil. The interior is very richly decorated, and over the high altar are two portraits, one of Ignatius Loyola and San François Xavier; probably the only remarkable objects of art which any of the public buildings of Bahia have to offer. (Denis Brézil, p. 234.) The other public buildings are, the ancient college of the Jesuits, now converted into a military hospital and medical school; the palaces of the archbishop and the governor; the town-hall (*caza de camarca*); the tribunal of appeal (*caza de relapo*); the theatre, built upon a rock; several hospitals (part of the funds for supporting them are derived from lotteries); a *caza de misericordia*, a bank, and other institutions.

Bahia contains a great number of religious houses, all of them situated in the upper town, but they offer nothing worthy of observation. It also contains between thirty and forty churches, scattered through the upper and lower towns. The clergy are very numerous, in consequence of its being the residence of the archbishop, who has the control of the ecclesiastical affairs of the empire.

In the lower town the exchange, a massive building of modern date, is worthy of remark. It is built in a peculiar style, in which it has been attempted to imitate the Grecian. The principal street is the *Praya*, in which is situated the church of the *Conceicao* (conception), remarkable on account of the stones with which it is built having been prepared and numbered in Europe, and brought thence in two frigates; so that on their arrival they had merely to be arranged in the order previously allotted to them. (Denis Brézil, p. 234.) The houses are chiefly constructed of stone, and, contrary to the usual mode in S. America, many consist of three, four, and even five stories. In the upper town are many handsome houses, constructed with balconies and blinds, instead of windows.

The city of San Salvador is almost destitute of institutions devoted to intellectual improvement. Amongst the seminaries of education is one which furnishes a large number of ecclesiastics. There is a public library, with from 60,000 to 70,000 volumes, among which are a few ancient Portuguese works, and some MSS. The greater portion of the good works are in French.

The vehicles generally used in Bahia are called *cadeiras*, and are a kind of palanquin, supported by negroes, who make a practice of clustering at

the corners of the streets, to be hired for that purpose.

The subjoined statement, compiled from the official returns of the director of customs, gives a view of the rise and growth of the foreign import trade of Bahia from the opening of the ports of Brazil to foreign nations, when Dom John VI. of Portugal, arrived in the city in 1808, and the subsequent importance given to commerce by the discovery of the diamond mines in this province in 1845:—

In 1810 Value of Imports was . . .	Ra. 1,466,000
1816	2,333,333
1819	2,600,000
1820	3,600,000
1821 Independence of Brazil . . .	4,000,000
1831 Abdication of Dom Pedro I. . .	5,150,000
1844 { Cessation of our Commercial Treaty. New Tariff }	9,744,000
1845 Discovery of Diamond Mines . .	10,853,000
1852	14,856,650
1856-57	20,926,373
1857-58	21,107,071
1858-59	21,018,930
1859-60	17,140,662
1863-64	16,102,871

The British imports *alone* into the port of Bahia in twelve years, from 1845 to 1857, increased 167½ per cent., showing a value in 1844 of 601,727*l.* in 1845 of 705,156*l.* in 1856-57 of 1,598,034*l.* in 1857-58 of 1,244,760*l.* in 1858-59 of 1,227,141*l.* in 1859-60 of 933,238. (Report of Mr. Morgan, British Consul, on the Trade of Bahia.)

The harbour of Bahia is one of the very best that is anywhere to be met with. It may be entered either by day or by night, and at any time of the tide. The largest ships anchor close to, and immediately abreast of, the town, in from six to seven fathoms. N. and NW. of the town the bay expands into a noble basin, studded with islands, and affording safe anchorage for innumerable ships. The trade of Bahia is very extensive. The exports consist principally of sugar, cotton, and coffee; with tobacco, hides and horns, rice, dye and fancy woods, nuts, bullion, and diamonds.

The subjoined tabular statement gives the value of foreign imports into the port of Bahia during the financial year of 1859-60.

From Great Britain	Ra. 8,702,033
France	2,357,882
Portugal	1,398,447
Hanseatic Towns	799,969
Sardinia	162,977
Austria	511,171
United States	1,014,470
River Plate	637,844
Belgium	149,141
Spain	37,571
Holland	74,278
Sweden and Norway	17,396
Coast of Africa	261,647
Foreign Ports from Port of Empire	1,030,880

Total Ra. 17,140,662

Exchange 25½d. per dollar Total . . . £1,839,000

Value of British Imports £333,238

The most important articles of import are cotton manufactures, woollen and linen stuffs, fish, flour, earthenware, wine, copper, and iron. The imports of cotton, woollen and linen manufactures from Great Britain greatly declined in the 10 years 1855-64, having amounted to 28,100 packages in 1855, and to 11,327 bales in 1864. (Report of Mr. Consul Morgan.)

The nature of the exports is shown in the subjoined comparative table, which gives the value of agricultural produce shipped to foreign countries from the port of Bahia.

	1860	1859
Sugar . . .	£242,380	£865,870
Cotton . . .	7,266	9,060
Coffee . . .	107,492	101,743
Cocoa . . .	16,100	13,290
Hides . . .	74,490	65,181
Rum . . .	20,620	32,690
Tobacco . . .	311,400	267,875
Rosewood . . .	34,900	29,800
	£814,398	£1,385,009
Diamonds . . .	200,000	680,000
	£1,014,398	£1,945,009

The total shipping which entered the port of Bahia in 1860 amounted to 958 vessels, of an aggregate tonnage of 222,020, manned by a crew of 15,945. Of these vessels 106, of a tonnage of 62,695, with a crew of 3,195, sailed under the British flag. (Report of Mr. Morgan, British Consul at Bahia.)

The country round nearly the whole Bay of Bahia, to the extent of from 12 to 20 m. inland, is known by the name of the Reconcavo, and is the most fertile and productive in the comarca. Its soil, called by the inhabitants *masappé*, is black, and its fertility is proverbial. In this district is situated the town of Cachoeira or Caxoiera, which ranks next Bahia, as regards extent, population, and importance. It carries on an extensive trade with the interior of the province, and has a population of about 16,000 inhabitants. The district called the Reconcavo comprises several flourishing villages and country towns, which owe their prosperity to the abundance of their agricultural productions. Among these Tapagipe, or Nossa Senhora de Penha, may be distinguished on account of its containing the country residence of the archbishop of the prov. It contains also a dockyard, whence many well-built and substantial vessels are constantly launched.

The island of Itaparica, situated in the Bay of Bahia, is the largest with which it is studded. It is about 14 m. in length and 6 in its greatest width. Fruit-trees are very extensively cultivated throughout the island. The industry consists chiefly of whale-fishing, the distillation of rum, and some rope-making. Several towns in the Reconcavo equip vessels for prosecuting the whale-fishery in the bay, which forms a branch of industry on this line of coast.

In the comarca of Ilheos the chief town is San Jorge dos Ilheos, which was formerly flourishing and comparatively opulent and extensive, but has now the appearance of being deserted. The expulsion of the Jesuits gave the finishing blow to its importance.

BAHLINGEN, a town of Würtemberg, circ. Black Forest on the Kyach, 14 m. N.E. Rotwell. Pop. 2,295 in 1861. It has fabrics of cloth and woollen stuffs, tanneries, and numerous breweries and distilleries. There are mineral springs in the vicinity.

BAHREIN, or AVAL ISLANDS, a group consisting of one large and several smaller islands, in the Persian Gulf, subject to the imaum of Muscat, in a bay near the Arabian shore, between lat. 25° 45' and 26° 16' N., and long. 50° 15' and 50° 20' W. The largest island (Bahrein) is about 25 m. in length, N. to S., by 6 or 7 m. wide, and 80 or 90 m. in circuit: a hilly tract occupies its centre; 4-5ths of its surface are wastes, but the remainder is well watered, partially cultivated, and thickly inhabited. The pop. of the whole group of islands is, perhaps, 60,000, and composed of several different tribes. The native Bahreins number about 40,000 or 50,000; they are a mixed breed between the Persians and Arabs, but possessing more of

the indolence and cunning of the former than of the bold frankness of the latter. They are chiefly cultivators, merchants, and fishermen, and for the most part Mahommedans, of the sect of Omar; the rest of the inhabitants are mostly Arabs. The pearl fishery, for which these islands are chiefly noted, employs, during the season, 80,000 men; and yields pearls of the value of, from 300,000*l.* to 360,000*l.* yearly. Most of the fishery boats belong to merchants possessing considerable capital, but the largest proprietor in them is the sheik himself, who has upwards of 2,000 boats, each manned, during the season, with eight or ten men: he imposes also a small tax on every other boat. The fishing season is from the beginning of June till October. The diving is conducted pretty much in the same manner as in Ceylon (see CEYLON); but the divers attach their oyster-nets to their waists, and are in the habit of always stuffing their ears and nose with horn or other substances: they can remain under water nearly two minutes at a time. They are often in the most abject circumstances, and generally in debt to the merchants, who obtain the pearls at their own price. Bahrein has a considerable traffic, and might be rendered valuable under a good government, and made the centre of all the commerce on this part of the Arabian coast. Although the only cultivation consists of date plantations, and a few wheat, barley, and clover fields, at least one-fourth part of the soil is very rich; and by irrigation much of the rest is capable of being greatly improved. Pomegranates, mulberries, figs, and melons are produced; and cattle, poultry, and plenty of vegetables are obtained from the neighbouring coast. Numerous small villages and towns are scattered over the cultivated parts of the island; and at its N. portion there are two towns, Manama and Ruffar. Manama is the residence of the principal merchants, and contains a fort originally built by the Portuguese; the remains of several fine reservoirs and aqueducts, constructed by the same people, exist on this island. At the N. end are two harbours; that to the NW. having a depth of four to seven fathoms water near the shore. The principal exports are pearls to India, Persia, Arabia, and Bussorah; dry dates, tortoise-shell, canvas, and sharks' fins, to India; and dates, canvas, mats, and coloured cloths, to the other countries. The chief imports are rice from Bengal and Bangalore; sugar, pepper, blue and white cloths, planks, iron and other metals, cinnamon, camphor, drugs, and indigo, from India; coffee, dry fruits, and grain, from Bussorah, Persia, and Muscat. There are twenty merchant-vessels, of 140 to 350 tons, belonging to Bahrein, chiefly employed in the India trade. The islands of Maharag, Arad, and Tamahoy, lie N.E. Bahrein, and contain 7,500 inhabitants. Maharag is the residence of the sheik, and has a town with a pop. of 6,000. The sheik of Bahrein keeps up five armed vessels; but, in time of war, can fit out fifteen or twenty. One of his ships is of 400 tons burden, and mounts twenty-two guns. He also maintains a body of troops, consisting of a few hundred men; but the best defence of Bahrein is in the multitude of reefs surrounding it; and five hundred determined men might oppose the landing of as many thousands. The sheik's authority extends over a few places on the Arabian coast. These islands were known to the ancients by the name of Tylos, and are mentioned by Arrian. The Portuguese established a settlement here soon after Ormuz had been taken by Albuquerque; but they were expelled by the Persians subsequently to the fall of Ormuz. For a long period the Persians and the Alassar sheiks contested the possession of Bah-

rein; but since 1790 it has been wholly separated from the Persian dominions.

BAIÆ, a famous marine watering-place of ancient Italy, the Brighton of the Roman world, on the W. shore of the Bay of Naples, 8 m. W. of that city, and 2½ m. N. Cape Misenum. Baiæ was indebted for its rise and celebrity to a variety of circumstances—to the softness and serenity of its climate, the beauty of its situation,—

‘Nullus in orbe cinus Baiis præluet æmionis.’—

the abundance of its hot springs, which gave to the Romans, who were passionately fond of the bath, the opportunity of indulging in that luxury in every form that was most acceptable. It seems to have come into fashion previously to, or about, the era of Lucullus, who had a splendid villa either in the town or its immediate neighbourhood, as had also Cæsar, Pompey, and Augustus; and it continued to increase in popularity, and to be a favourite resort of the emperors and of the affluent voluptuaries of Rome till the irruption of the barbarians under Theodoric the Goth. The town was built originally on the narrow slip of ground between the hills and the sea; but as this space was but of very limited dimensions, after Baiæ became a fashionable resort, the foundations of its streets and palaces were projected into the bay itself! This is alluded to by Horace:—

‘Marisque Baiis obstreptentis urgeæ
Summovere littora,
Partim locuples continente ripa.’ II. Od. 18.

No sooner, however, had opulence withdrawn her powerful hand, than the sea gradually resumed its old domain; moles and buttresses were torn asunder, washed away, or tumbled headlong into the deep, where, several feet below the surface, pavements of streets, foundations of houses, and masses of walls, may still be described. Earthquakes and other convulsions of nature have also largely contributed to the destruction of Baiæ, of which only a small portion of the ruins now remain.

BAIBOUT, or BAIBURDI, a town of Asiatic Turkey, pach. Erzeroum, on the Tchorkhki, 62 m. W. by N. Erzeroum. Pop. estimated at about 4,000. It is a straggling ill-built town, supposed to occupy the site of the ancient *Varutha*, with a castle which has some marks of antiquity. Instead of walls and bastions, it is defended by portable towers made of logs of wood. They are musket-proof, of a triangular shape, and have raised turrets at each angle. If required in any distant part of the country, as not unfrequently happens, they may be taken to pieces, or, if the roads permit, transported on wheels. The accumulation of snow in winter is here so great as to cut off all communication between Baibout and the circumjacent villages for four months in the year. Cow dung baked in the sun, and collected during the summer months, is the only fuel the poor can afford to purchase. The natives in this part of Armenia are described as a short, stout, and active race of men; remarkably dark in their complexions, brave and hardy, passionately fond of hunting the stag, with which their mountains abound, and invariably civil. (Kinneir's Asia Minor, p. 353.)

BAIKAL (LAKE OF), sometimes called the *Sivatore More*, or Holy Sea, in Siberia, in the gov. of Irkoutsk, between 51° and 56° N. lat., and 103° and 110° E. long. Its greatest length in a NNE. and SSW. direction, is nearly 400 m.; but, where greatest, its breadth does not exceed 60 m., and is in most parts much less. It is of very unequal depth, sand-banks and shallows occurring alongside of all but unfathomable abysses. It is situ-

ated in a mountainous country, and receives several considerable rivers, while its surplus water is entirely carried off by the Angara, a large and rapid river, an affluent of the Jenissei. The fisheries of this lake are very valuable. Great numbers of seals, of a silvery colour, are captured, the skins of which are sold to the Chinese. Sturgeon, to the extent of about 1,000 poods a year; salmon are also taken; but the grand object of the fishery is the *omul*, a sort of herring (*Salmo autumnalis*, vel *migratorius*), taken in vast numbers (about 100,000 poods a year) in August and September, when it ascends the rivers. The most singular fish belonging to the Baikal is the *golomyzka* (*Calymmus Baicalensis*), from four to six inches in length, so very fat that it melts before the fire like butter. The latter is never taken alive, but is cast dead upon the shore, sometimes in immense quantities, after storms. It yields an oil, sold to great advantage to the Chinese. The surface of the lake is frozen over from November to the end of April or the beginning of May. (Klaproth, *Mémoires relatifs à l'Asie*, iii. 89–108; Sorech, *Tableau de la Russie*, ii. 142.)

BAILLEUL, a town of France, dép. du Nord, cap. cant., on a hill near the Meterbecque, 16 m. WNW. Lille, on the railway from Lille to Dunkerque. Pop. 10,102 in 1861. The town is open, and is generally well built; it has various fabrics of cloth, cotton and lace, paper and hats, with a large distillery, oil-mills, tanneries, and potteries. A species of cheese called *Bailleul*, made in the environs, is highly esteemed. Bailleul is the name of several small towns in various parts of France, but all too inconsiderable to deserve notice in this place.

BAIN, a town of France, dep. Ille et Vilaine, cap. cant., 18 m. S. Rennes. Pop. 3,490 in 1861. It has manufactures of serges and woollen stuffs.

BAIS, a town of France, dép. and arrond. Mayenne, cap. cant. Pop. 3,083 in 1861. This also is the name of a town of about the same size, in the dép. Ille et Vilaine, arrond. Vitré.

BAJA, or BAS, a town of Hungary, co. Bacs near the Danube, 20 m. N. by W. Zombor, lat. 46° 10' 26" N., long. 38° 58' 17" E. Pop. 18,621 in 1860. It is the seat of the courts of justice for the co., has a Catholic and a Greek church, a synagogue, and a Catholic gymnasium. There are four great fairs annually.

BAKEWELL, a town of England, co. Derby, hund. High Peak, par. Bakewell, 22 m. NNW. Derby. Pop. 2,704 in 1861. Area of township, 3,380 acres. The town is beautifully situated on the W. bank of the Wye, 2 m. above its confluence with the Derwent. The church, a spacious Gothic structure, on an eminence, contains many fine monuments. The Independents and Wesleyans have each a chapel. There is a free-school, founded in 1636, with a small endowment, and an almshouse for six old men. Over a chalybeate spring (which had a high reputation in the Saxon times), modern baths have, within a recent period, been formed; these are constantly supplied with fresh water, which, on its influx, emits considerable quantities of carbonic acid gas: its temp. is 60° Fahr. Near the entrance to the town, from Ashford, is a cotton manufactory, built by Sir Richard Arkwright: it employs about 300 hands. Many of the other inhabitants are employed in the lead mines and marble quarries of the neighbourhood. The town has a station on the Midland Railway. The weekly market is held on Friday, but there is little business of any kind transacted. There are annual fairs held, Easter Monday, Whit Monday, Aug. 29th, Monday after Oct. 10th, and Thursday after Nov. 11th. The petty sessions for the hun-

dred are held in the town. It is the chief polling town for the N. division of the county. The living is a vicarage, in the patronage of the dean and chapter of Lichfield.

Three miles N.E. of the town is Chatsworth, the splendid seat of the Duke of Devonshire, on a gentle rise near the base of a finely wooded hill: the Derwent, spanned by a handsome stone bridge, flows past its principal front. The mansion forms a square of 190 ft., enclosing a spacious court, with a fountain in the centre; it has a flat roof surrounded by balustrades, and is decorated with Ionic columns. At the principal entrance, a grand flight of steps leads to a terrace extending the length of the building. The water-works (with the exception of those of Versailles) are considered the finest in Europe. The present edifice stands on the site of the mansion built by Sir William Cavendish in the 16th century, in which Mary, Queen of Scots, was imprisoned thirteen years. It was completed in 1706, but a wing and other additions have been made to it by the present duke, and many improvements are still in progress. Altogether, it is one of the noblest residences in the kingdom, and contains a very large collection of pictures, statues, and articles of *vertu*. Haddon Hall, the property of the Duke of Rutland, the most perfect of the ancient baronial mansions remaining in the kingdom, is about 2 m. S. of the town, on an eminence overlooking the fine vale of Haddon. It was built at different periods; the most ancient part in Edw. III.'s reign; another, in that of Hen. VI.; and the most modern, in the reign of Eliz.; at which period it came into the possession of the Manners family.

The present name of the town is a contraction of its old Saxon name, derived from the chalybeate spring. The castle stood on a knoll, on the E. bank of the Wye. The parish in which this township is situated is the largest in the co., its area being 43,020 acres; and it includes, besides the towns of Bakewell and Buxton, eight chapelries, ten townships, and four hamlets. The entire population in 1831 was 9,503, and in 1861 it had risen to 11,254.

BAKTCHISERAI (palace of the gardens), a town of Russia in Europe, in the Crimea, of which, while under the Tartars, it was the capital and the residence of the khan, 7 m. SW. Simpheropol. Pop. estimated at about 10,000. 'This,' says Dr. Clarke, 'is one of the most remarkable towns in Europe; first, in the novelty of its manners and customs; these are strictly oriental, and betray nothing of a European character: secondly, in the site of the town itself, occupying the craggy sides of a prodigious natural fosse, between two high mountains, somewhat like the appearance exhibited by Matlock in Derbyshire. The view breaks all at once upon the traveller, exhibiting a variety of objects in a most irregular and scattered manner; while bubbling fountains, running waters, gardens, terraces, hanging vineyards, and groves of the black poplar, seem to soften the horror of rocks and precipices, and even to make them appear inviting.' (vol. ii. p. 170, 8vo. ed.) But, notwithstanding this profusion of fountains and water, Baktchiserai is not distinguished by its cleanliness; on the contrary, its streets are narrow, winding, and filthy. It suffered a good deal after its first occupation by the Russians, but latterly it has improved: it is entirely occupied by Tartars. The ancient palace of the khans has been repaired, and is preserved in all its former magnificence. (Schnitzler, *La Russie*, p. 734; Lyall's *Travels*, i. p. 261.)

BAKU, or BADKU, a sea-port town of the Russian dominions, prov. Daghestan, on the S.

shore of the peninsula of Abseharon, on the W. coast of the Caspian Sea, of which it is one of the best and most frequented ports; lat. 40° 22' N., long. 50° 10' E. Pop. estimated at about 6,000. It is defended by a double wall and deep ditch, constructed in the reign of Peter the Great. It has some mosques and caravanseras, but is meanly built: the houses, which are flat roofed, are covered with a coating of naphtha. Its excellent harbour, and its central and advanced position, give it great advantages as a trading station. The value of the imports, consisting principally of raw silk and cotton goods from Persia, amounted, in 1860, to 2,000,000 roubles. The exports consist principally of naphtha, saffron, and oil.

The peninsula of Abseharon is famous for its naphtha springs and mud volcanoes, and before the Mohammedan conquest was a favourite resort of the Ghebers, or fire-worshippers. 'The quantity of naphtha procured in the plain to the SE. of the city is enormous. It is drawn from wells, some of which have been found to yield from 1,000 to 1,500 lbs. a day. These wells are, in a certain sense, inexhaustible; for they are no sooner emptied than they again begin to fill, the naphtha continuing to increase till it has attained to its former level. It is used by the natives as a substitute for lamp oil, and, when ignited, emits a clear light with much smoke, and a disagreeable smell. E. of the naphtha springs the attention is arrested by the Atash-Kudda, or fire-temple of the Ghebers; a remarkable spot, something less than a mile in circ., from the centre of which a bluish flame is seen to arise. Here some small houses have been erected; and the inhabitants, in order to smother the flame, have covered the space enclosed by the wall with a thick loam of earth. When fire is, therefore, required for any culinary purpose, an incision is made in the floor, and on a light being produced, the flame immediately arises, and when necessary is again suppressed by closing the aperture! With the fire a sulphureous gas also arises; and a strong current of inflammable air, with which leathern bottles are frequently filled, invariably continues after the flame has been extinguished. The whole country, indeed, around Baku has, at times, the appearance of being enveloped in flames. It often seems as if the fire rolled down from the mountains in large masses, with incredible velocity; and during the clear moon-shine nights of November and December, a bright blue light is observed, at times, to cover the whole western range. This fire does not consume; and if a person finds himself in the middle of it, he is not sensible of any warmth.' (Kinneir's *Persia*, p. 359.) The mud volcanoes, in the vicinity of the town, often throw up vast quantities of mud. Baku was acquired by the Russians from the Persians, in 1801, and along with Astrakhan carries on the whole trade of the Caspian. (See **CASPIAN SEA**.)

BAKU, or BAKOWA, a town of Moldavia, on the Bistritz, near its confluence with the Sereth, lat. 46° 30' N., long. 26° 47' E. It is a poor, miserable, filthy place, but has a considerable trade in cattle, corn, salt, and wood. It occupies the site of a city which was once the residence of a Catholic bishop; the ruins of the cathedral still exist.

BALA, a township, market, and assize town of N. Wales, co. Merioneth, hund. Penllyn, 37 m. NW. by W. Shrewsbury, at the W. end of the largest of the Welsh lakes, in a wild and mountainous district. Pop. of par., 6,852 in 1861. The town, which consists of one wide street, with a smaller one branching from it, has a neat and respectable appearance. It has a chapel of ease, and two other chapels belonging to Independents and

Calvinistic Methodists; an endowed grammar-school, founded in 1712, where thirty boys are clothed and educated each for four years; a book society, established in 1828; and a town-hall, to which one of the co. bridewells is attached. The market is held on Saturdays, and is well attended. There are five fairs, chiefly for the sale of live stock, on the Saturday before Shrovetide, May 14th, July 10th (a large lamb fair), Oct. 24th, and Nov. 8th. Bala appears to have been anciently incorporated, but at present is merely a nominal borough in the jurisdiction of the co. magistrates. The spring assizes, the summer and winter quarter sessions for the co., are held here, and a co. court for debts under 40s. every other month; all the courts being alternately held here and at Dolgelly. The town and neighbourhood have been famous from a remote period for the manufacture of knitted stockings and gloves, esteemed for their strength and softness of texture; but this has of late years declined considerably. About 50,000 dozen stockings and socks are annually made. The town is connected with the English railway system by the Bala and Dolgelly line, authorised in 1862, of a length of $3\frac{1}{4}$ miles. At the SE. end of the town is a large artificial mound, supposed to be of Roman construction, from the summit of which is a magnificent view, having the lofty Arrans on one side, and Cader Idris on the other. The lake Bala, Tegid, or Pimblemere, is about 4 m. in length by 1 in width; it abounds with pike, perch, trout, and still more with the white-scaled gwyniad. The whole is the property of Sir W. W. Wynn, who has a fishing-seat on it. The Dee rises in Arran Penllyn, a mountain at the head of the lake, and emerges from it near Bala, where it is spanned by a bridge, near which, on the E. bank, a castle was erected in 1202, of which some traces are yet visible. A branch of the Roman Watling St. passed through or very near the present town, and at the head of the lake are the remains of a Roman station. The artificial mound above mentioned was occupied by the Welsh as one of a chain of forts across this part of the principality, to prevent the incursions of the English lords marchers: at a subsequent period the place was a dependency of Harlech Castle. Bala is a favourite resort of sportsmen during the grouse season.

BALACHNA, a town of European Russia, gov. Nijni Novgorod, on the Wolga. Pop. estimated at 4,000. There are saline springs in the neighbourhood.

BALAGANSKOI, a town of Asiatic Russia, gov. Irkoutsk, 90 m. NW. Irkoutsk, on the Angara.

BALAGUER (an. *Bergusia*), a town of Spain, Catalonia, on the Segre, 14 m. NE. Lerida. Pop. 5,128 in 1857. It is situated at the foot of a steep mountain in a fertile plain, and is defended by a castle.

BALAGHAUT CEDED DISTRICTS, an incl. prov. of S. Hindostan, presid. Madras, between $13^{\circ} 15'$ and $16^{\circ} 20'$ N. lat., and $75^{\circ} 40'$ and $79^{\circ} 20'$ E. long.; consisting of part of the region called Balaghaut, or above the Ghauts (which extends from the Krishna to the S. of Mysore, and formed the anc. Hindoo emp. of Karnata), having N. Kurnool, and the territories of the Nizam; E. Guntoor, Nellore, and Arcot; S. Mysore; and W. Dharwar: length about 200 m., breadth various, area, 25,456 sq. m. Pop. about 2,500,000. It is almost equally divided between the collectorates of Bellary and Cuddapah. It consists mostly of elevated table-lands stretching out into extensive plains; but large tracts are rugged, and there is a great deficiency of wood. There are no large rivers: the Toombuddra forms part of its N. boundary, and fills some watercourses about Bi-

janagur, the anc. Hindoo capital; but elsewhere irrigation is scarce, and drought frequently prevails. The soil is in most parts either black or red mould: the former is most common in the W. districts, where it forms an extensive plain: it is deep, without vegetable remains; and when cleared, broken up, and properly pulverised, is found to be exceedingly fertile, and is afterwards very easily cultivated. But this bringing in of the black soil is a very expensive process; and, in consequence, though the red soil be less fertile, yet, as it is more easily brought into a productive state, the poorer classes are generally settled upon it. Drill husbandry is universal. Rain is uncertain; and if it fall in June, the whole crop is in danger of being lost. The dry cultivation is almost universal: the wet not being supposed to exceed 7 per cent. of the whole. Plantations of indigo, betel, sugarcane, red pepper, tobacco, &c., are pretty extensively scattered over the country. The temperature is much cooler than in the surrounding and less elevated districts. Manufactures inconsiderable.

The land has always been regarded as belonging to government, and the metayer system was prevalent under both the native and Mohammedan dynasties. Between the conquest of the latter and the reign of Aurungzebe, the class of *poligars*, who were originally either mere collectors of the revenue or heads of villages, having greatly increased in numbers and influence, withheld the revenues, set up for petty chiefs, and having established a kind of feudal system, desolated the country by their mutual wars, and reduced it to a state of anarchy and of the utmost misery. When it came into the possession of the British in 1800, its inhab. generally were the poorest in our dominions: 'they were seldom even fixed as tenants, but migrated from farm to farm, and from village to village, where they clubbed together to carry on their cultivation.' The judicious administration of Sir T. (then Col.) Munro, who was appointed principal collector, not only averted a famine, in consequence of drought, in 1803, but in seven years raised the revenue, without burdening the cultivators, from 1 million to $1\frac{1}{4}$ million pagodas. The average total revenue paid by each inhab. of Bellary is 2 rup. 8 an. 8 pic.; and that paid by each inhab. of Cuddapah, 2 rup. The village settlement is predominant in this prov., especially in Cuddapah. The inhab. are more laborious, hardy, and manly, and their food, dress, and weapons ruder than those of the people below the Ghauts; they were never thoroughly subdued by the Mohammedans, who settled in this prov. at a comparatively late period, and do not now exceed 1-15th part of the pop. Balaghaut formed part of the last Hindoo empire of Bijanagur: after the fall of the Delhi dynasty, it became separated into several indep. states, was conquered by Hyder before 1780; and after 1792 belonged to the Nizam, by whom, in 1800, it was ceded to the British. (For further particulars see MADRAS; Hamilton's E. I. Gazetteer; Madras Almanac.)

BALAKLAVA, a small sea-port town of European Russia, at the SW. extremity of the Crimea; lat. $44^{\circ} 29'$ N., long. $33^{\circ} 34'$ 40' E. Pop. 2,079 in 1858. A great battle was fought here Oct. 26, 1854, between the Russian and the allied Anglo-French troops. The town has a small but excellent harbour, land-locked, and with water sufficient to float the largest ships. It has no trade, and is resorted to only by coasters.

BALAMBANGAN, an isl. of the E. Archip., 4th division, lying off the N. extremity of Borneo; lat. $7^{\circ} 15'$ N., long. $117^{\circ} 5'$ E.; 15 m. long and 3 broad, but uninhabited. It has a rich soil, and

two harbours abounding in fish. A settlement, formed in 1774, by the E. I. Company, was soon after destroyed by the Sooloos, and a subsequent settlement planted in 1808 was afterwards abandoned.

BALASORE (*Valensara*), a sea-port town of Hindostan, presid. Bengal, prov. Orissa, distr. Cuttack, of which it is the chief port; lat. $21^{\circ} 32' N.$, long. $86^{\circ} 56' E.$; 125 m. SW. Calcutta. Pop. estimated between 10,000 and 12,000. It is a large straggling place, on the S. bank of the Boori-Balang, and much fallen off. Formerly it was a flourishing town, with Portuguese, Dutch, and English factories. It has dry docks, but is at present frequented only by Maldivian vessels, salt boats, and other small craft: its exports are chiefly rice to Calcutta in winter.

BALATON (LAKE OF), in Hungary. See **PLATTEN-SEE**.

BALBRIGGAN, a marit. town of Ireland, co. Dublin, prov. Leinster, near the mouth of the small river Delvan, forming the co. boundary to the N., 17 m. N. by E. of Dublin. The area of the town contains 180 statute acres. According to the census of 1861, there were 2,258 inhabitants, of whom 1,042 males and 1,216 females. The total number of houses was 555, of which 479 inhabited. The place was the scene of a sanguinary battle, in 1329, between the first Earl of Louth and some of the English settlers, who disputed the claim to the palatine dignity of the county, but were defeated. William III. encamped here on his march to Dublin, after the battle of the Boyne. The town is the head-quarters of the co. constabulary, and near it is a martello tower, with a coast-guard station. There are two cotton mills here, giving work to about 100 persons. The census returns state that 67 families are employed in agriculture, 172 in manufactures and trade, and 253 in other pursuits. 138 males and 148 females are returned as members of the Established Church, and 879 males and 1,063 females as Roman Catholics. The public markets are held on Mondays, in a market house erected in 1811. The fairs are on the 29th April and 29th September.

The harbour, which is naturally small and much exposed, was considerably improved by a pier built about 1765. The quay, which is now 600 ft. long, with a lighthouse at the extremity, is frequently filled with craft. At the pier head there is 14 ft. water at high spring tides, but the harbour dries at low water. (The Census of Ireland for 1861; Priv. Information.)

BALEARIC ISLANDS. See **MAJORCA** and **MINORCA**.

BALFRON, a village of Scotland, in the W. part of Stirlingshire, in the parish of the same name, 19 m. N. Glasgow, and 19 m. W. Stirling. Pop. 1,900 in 1851, of whom 982 males and 968 females. In 1861 the population had fallen to 1,517, of whom 699 males and 818 females. The inhabitants are principally employed as weavers for the Glasgow manufacturers, and in the Ballindalloch cotton mills in immediate vicinity.

BALFROOSH, a town of Persia, prov. Mazanderan, on the Bawool, about 12 m. from the S. shore of the Caspian Sea; lat. $36^{\circ} 37' N.$, long. $52^{\circ} 42' E.$ This is a large flourishing city. There are, however, no accurate details with respect to its population; the estimates vary from 120,000 to 200,000. It is situated in a low, swampy, but rich country, and stands literally in the middle of a forest, it being surrounded and interspersed with fine trees. It has an extensive trade, to be accounted for principally by the comparative immunity it has enjoyed from oppressive imposts, as the roads leading to it are bad, and its port, 12 m. off,

little better than an open roadstead. It is, or at least was, when visited by Mr. Fraser, entirely peopled by merchants, mechanics, and their dependents, and learned men; and was prosperous and happy, far beyond any other place he had seen in Persia. Streets broad and straight, but unpaved; houses mostly constructed of bricks, in good repair, and roofed with tiles. It has no public buildings of any consequence; the only places of any interest being the bazaars, which extend for a full mile in length, and consist of substantially built ranges of shops covered from the sun and weather by a roofing of wood and tiles, kept in excellent repair. There are about ten principal caravanseras, several of which are attached to the bazaars, and are parcelled out into chambers for the merchants, and warehouses for their goods. All the bazaars and caravanseras are well filled with various commodities, and present a scene of bustle and business, yet of regularity, very uncommon in this country, and therefore the more gratifying. There are between twenty and thirty medrasses or colleges, Balfroosh being nearly as much celebrated for the number and eminence of its moolahs, or learned men, as for its commerce. The river is crossed by a bridge of nine arches. (Fraser's Travels along the Caspian Sea, pp. 82-99.)

BALI, BALLY, or LITTLE JAVA, an island of the E. Archipelago, W. or 1st division, between $8^{\circ} 6'$ and $8^{\circ} 50' S.$ lat., and $114^{\circ} 40'$ and $115^{\circ} 42' E.$ long; 70 m. long by 85 m. average breadth. Pop. estimated at from 600,000 to 700,000. Coast rugged and without harbours; surface rising gradually to the centre, where a chain of mountains stretches W. and E. across the island, terminating in the peak of Bali, which is volcanic; geology the same in other respects as that of Java. The land is productive where well watered, as around the coasts, by numerous streams, and elsewhere by artificial means. Irrigation is so necessary that the sovereigns of Bali impose a tax not on the land, but on the water by which it is fertilised. In the lower tracts rice is much cultivated; maize and sweet potatoes in the upper lands. In addition to these articles, the Baleses, though mostly Hindoos, eat poultry, hogs' flesh, and even beef, without scruple, excepting the sacerdotal class. The chief exports are rice, coarse cloths, cotton yarn, hides, salted eggs, birds' nests, oil, *dingding* (dried flesh), *gambier* (catechu), &c.: the imports, opium, betel, gold, silver, and ivory. The natives being superior to the Malays and Javanese in size, strength, and intelligence, are preferred by the Chinese as slaves. Bali was divided, in 1815, into eight independent states, governed by despotic chiefs: the village system prevails here as in Java. There are but few Buddhists or Mohammedans; but Hindooism prevails in Bali only, of all the islands of this archipelago. The mass of the people, however, worship the elements, and the tutelary gods of rivers, forests, mountains, &c. There are no religious mendicants, but suttees and immolations are conducted on a much more aggravated scale than in India. The Sanscrit tongue may be distinctly traced in the language of Bali.

BALIZE. See **HONDURAS**.

BALKH, or BULKH (an. *Bactra*), a prov. of Central Asia, now subordinate to the khanat of Bokhara, chiefly between lat. 35° and $37^{\circ} N.$, and long. 63° and $69^{\circ} E.$; having N. the Oxus,* E. Buduk-shun, S. the Hindoo Koosh, and Paropamisian mountains, and W. the desert. Length, E. to W., about 250 m.; breadth 100 to 120 m.; area 30,000 sq. m. Pop. about 1,000,000. (Elphinstone, ii. 195.) The S. part is full of stony hills, but has many good and well watered valleys; the E. is mountainous, and more valuable than the

W., which, as well as the N., is sandy and barren. It formerly comprised several districts which now belong to separate governments, as Khooloom, Koondooz, and others to the E. Its capital, and the territory subordinate to it, have, since the fall of the Doraanee monarchy in Caubul, to which state it formerly belonged, been taken possession of by the khan of Bokhara.

BALKH (the *Zariaspa* and *Bactra* of the Greeks), a decayed city of Central Asia, cap. prov. belonging to the khanat of Bokhara, but governed by its own chief, who receives the whole of its revenues; on the right bank of the Adirshah or Balkh river, in a plain 6 m. NW., a range of the Paropamisian mountains, 18 m. S. the Oxus, and 250 SE. Bokhara; lat. $36^{\circ} 48' N.$, long. $67^{\circ} 18' E.$ Pop. estimated at about 6,000. The ruins of Balkh occupy a circuit of 20 m.: they consist chiefly of fallen mosques and decayed tombs, none of an age prior to that of Mohammed. The city, like Babylon, has become to the surrounding country an all but inexhaustible mine of bricks. There are many inequalities on the surface of the plain, probably proceeding from buried ruins, and clumps of trees in many directions. Balkh seems to have enclosed many extensive gardens, but these are now neglected and overgrown with weeds. The aqueducts, of which there are said to be eighteen, are dried up or choked, and overflow after rains, leaving standing pools, which make the place very unhealthy, though Balkh is not naturally in a marshy position, but on a gentle slope towards the Oxus, about 1,800 ft. above the level of the sea. A mud wall, of late construction, surrounds a portion of the present town, excluding the ruins on every side for about 2 m. The town contains three large colleges, but empty and decaying; and at its N. side is the citadel, a solid building, but not strong as a fort; it contains a stone of white marble, pointed out as the throne of 'Cyrus'! The country round is flat, fertile, and well cultivated, said to contain 360 villages, and is watered by eighteen canals, drawn from a celebrated reservoir in the Paropamisian mountains. Its wheat and apricots are remarkably fine. Balkh is said to have been built by Kyamoors, the founder of the Persian monarchy, and is called by the natives *Omm-el-Buldan*, 'mother of cities.' After its conquest by Alexander the Great, it flourished as the capital of a Grecian kingdom. In the fifth century before the Christian era, Artaxerxes held an assembly at Balkh for the recognition of his authority. The Magi were expelled by the Caliphs: Genghis, Timour, Aurungzebe, Nadir Shah, and the Afghans, successively possessed it. Within the last twelve years it has belonged, with its territory, to the khan of Bokhara. (Burn's Travels, ii. 204, 207.)

BALKHAN. See **TURKEY.**

BALLENSTEDT, a town of the duchy of Anhalt, on the Getel, 15 m. SE. Halberstadt. Pop. 4,408 in 1861. The town is situated at the foot of a hill, and consists of an Old and a New town, the former ill-built. In its environs is a castle, the residence of the duke, which commands a fine view, and has fine gardens. It has fabrics of linen, dyeworks, and an hospital.

BALLINA, an inland town of Ireland, co. Mayo, prov. Connaught, on the Moy, 126 m. WNW. Dublin. Its former name was Belleek, 'the ford of flags.' The pop., including that of Ardnaree, a village on the Sligo side of the Moy, connected with it by a bridge, and which may be regarded as a suburb of Ballina, numbered 5,419 persons in 1861. In Ballina alone there were, according to the return of 1861, males 2,081, and females 2,318; total 4,399 inhabitants. The total number of

houses was 819, of which 782 inhabited. Of the 841 families living at Ballina (exclusive of Ardnaree) 80 were employed in agriculture, 247 in trades and manufactures, and 514 in other pursuits; 194 males and 206 females belonged to the Established Church, and 1,795 males and 1,998 females were Roman Catholics. The town, which occupies a pleasing and healthy position, contains several good streets and houses. The parish church is a plain building; the Roman Catholic chapel, which is considered as the cathedral of the Roman Catholic bishop of Killala, is a large and very ornamental edifice; there are also places of worship for Baptists and Methodists. The town contains eight public schools, in which, and in several private seminaries, about 800 children receive instruction. Here is also a dispensary. Races are held in May, on a fine course in the neighbourhood. General sessions of the peace are held in July, and petty sessions every Tuesday in the court-house, a neat modern building. Here is a station of the constabulary, and a barrack. The market is held on Mondays; fairs on 12th May and 12th August. There are two ale and porter breweries, and two large flour mills. A tobacco and snuff manufactory has been carried on since 1801, and coarse linen is woven, but not to any extent. Within the last few years the provision trade has been introduced, and is now very flourishing; large quantities of pork and bacon being cured, chiefly for the London market. In the neighbourhood is a very productive salmon fishery, rented at 1,500*l.* per annum: the fish is packed in ice, and exported to London. Eels are also taken in large quantities from September to the beginning of November; the fry is sold at 2*d.* per quart. A branch of the Provincial Bank was opened here in 1828, of the Agricultural in 1835, and of the National in 1837. The communication with the interior is kept up by the mail road between Castlebar and Sligo, which passes through the town: a new line is also opened from Swinford and Foxford to Killala. The Moy is navigable for vessels drawing 11 ft. of water for 5 m. from the sea, but the further passage is checked by a bar $1\frac{1}{2}$ m. below the town. (Census of Ireland, 1861.)

BALLINASLOE, an inl. town of Ireland, co. Galway and Roscommon, prov. Connaught, on the Suck, 78 m. W. by S. Dublin. It owes its origin to a castle (now fitted up as a private residence) on the Roscommon side of the river, long considered as one of the strongest forts in the prov. The battle of Aughrim, in 1691, in which the army of William III., under Ginkell, afterwards Earl of Athlone, completely defeated that of James II., under St. Ruth, who was killed in the action, was fought in its neighbourhood. Pop. 3,733 in 1861, of whom 1,781 males and 2,002 females. This does not include the portion situated in the co. of Roscommon, with which together there are a total of 8,911 inhabitants. The two portions into which the town is divided by the river are connected by a line of road, consisting of a causeway and two bridges between the banks, and an island that intercepts its course, having together sixteen arches; the whole line is about 500 yards in length. The private buildings have increased rapidly both in number and respectability, nearly a half having been erected within the last twelve years. The parish church is a plain building, with an octagonal spire springing from scrolls, that give it a very singular appearance; the Rom. Cath. chapel is also a neat unornamented structure. The Methodists have two places of worship. The census returns of 1861 showed 200 males and 236 females belonging to the Established Church, and 1,484 males and 1,708

females who were Roman Catholics. The district lunatic asylum for the province stands on the Roscommon side of the river. It is built in the form of a cross, with accommodations for 214 patients, and is surrounded by an enclosed area of garden and airing ground of fourteen acres. The total expense of the land and buildings was upwards of 27,000*l*. Of the 823 families of the chief part of the town, on the Galway side, 171 were engaged, in 1861, in agriculture, 81 in trades and manufactures, and the rest in other pursuits. The town covers an area of 140 statute acres, and is a great thoroughfare, a main division of the roads leading into Galway and Mayo branching off from it. The railway from Dublin to Galway has a station here. Passengers are also conveyed by the Grand Canal from Dublin, by boats fitted up for their accommodation. The town is well kept; much attention is paid to external cleanliness.

BALLINROBE, an inl. town of Ireland, co. Mayo. prov. Connaught, on the Robe, 25 m. NNW. Galway. Pop. 2,506 in 1861, of whom 1,172 males and 1,334 females. The returns of 1861 showed 72 families engaged in agriculture, 119 in trades and manufactures, and 845 in other pursuits. There were 70 males and 57 females belonging to the Established Church, and 1,099 males and 1,269 females who declared themselves Roman Catholics. The town consists of a main street and two branches of well-built houses. Near it is a torloagh or winter lake, called Lough Shy, which, though flooded to a considerable extent in winter, dries in the summer months, and affords pasturage for sheep. Lough Mask, into which the Robe discharges itself, lies about 3 m. W. of the town. A dispensary is maintained here. Barracks of considerable dimensions, both for cavalry and infantry, are now unoccupied. A brisk trade in corn and potatoes is carried on, for which a Monday market is held. Fairs are held on Whit-Tuesday and 5th Dec. General sessions of the peace take place in June and December, and petty sessions are held on Mondays in the court-house, which is also used as a market-house. Though the town does not lie on any of the great lines of internal communication, it is in a state of progressive improvement, attributable chiefly to the increased attention to agriculture in the district.

BALLON, a town of France, dép. Sarthe, cap. cant., on the Orne, 14 m. NNE. Le Mans. Pop. 1,939 in 1861. It has manufactures of coarse linens, and some trade in corn.

BALLYCASTLE, a marit. town of Ireland, N. coast co. Antrim. prov. Ulster, on a bay to which it gives name, 42 m. N. by W. Belfast. It originated in a castle built here by the Earl of Antrim in the early part of the reign of James I., but was not remarkable as a town until about 1770, when large parl. grants were voted to aid the working of the collieries in its neighbourhood. Pop. 1,626 in 1861, of whom 684 males and 942 females; that of the parish of Ramoan, in which it is situated, was 2,104 in 1861. Of the 421 families living in the town, 65 were returned in 1861 as engaged in agriculture, 134 in trades and manufactures, and 222 in other pursuits. There were 224 males and 280 females registered as belonging to the Established Church; 861 males and 523 females who declared themselves Roman Catholics; and 82 males and 110 females who were Presbyterians. The town lies in a beautiful valley in the inner extremity of the bay, and consists of two detached portions, the upper and lower towns, connected by an avenue bordered by forest trees. The houses are mostly respectable, all slated, and kept with much neatness. The church is a handsome building; the Rom. Cath. chapel is small; the Presbyterians and Me-

thodists have each a place of worship. Ballycastle was formerly a place of considerable business, having in it a brewery, glass-house, and salt-works, all of which have declined since the stoppage of the mines; and it is now little more than a fishing village, and a summer watering-place. The collieries, from which it derived its temporary prosperity, lie on each side the promontory of Fair Head; and the discovery of old workings and rude implements, in a part of the cliff previously unexplored, shows that they had been opened at a very remote period. The seam of coal, which shows itself in the face of the cliff at a considerable height above the sea, forms, in one part, a single bed 4*ft*. thick; at another, it appears in six strata, from 1 to 2½ *ft*. each, four of which are of flaming, and the two others of bituminous or blind coal. The workings, after having been carried on for a number of years to a considerable extent, have been relinquished, partly on account of the difficulty of penetrating to the dip of the old excavations, and partly from the want of a safe harbour for shipping. The only existing manufacture is that of linen, carried on in the houses of a few cottiers. The fishery of salmon, taken from February to September, appears, from the official return of 1836, to employ 9 boats and 27 men. The markets are held on Tuesdays, that of the first Tuesday in every month being so numerous attended as to resemble a fair. The regular fairs are held on Easter Tuesday, the last Tuesdays in May, July and Aug., and on 25th Oct., and 22nd Nov. Large numbers of a very small breed of horses, called Raghery ponies, are brought for sale from the island of Rathlin or Raghery. This island, which lies about 5 m. off the main land, is remarkable both for the singularity of its geological formation, and for having afforded shelter to Robert Bruce when forced to fly from Scotland. The town is on the extreme N. point of the line of road leading round the coast of Antrim from Belfast to Coleraine, and out of the direction of any great channel of trade. The harbour, which was originally capable of admitting vessels of large draught, was unsafe from the heavy seas thrown in from the ocean by the northerly gales; but, after upwards of 150,000*l*. of the public money had been expended in attempting to remedy this defect by the erection of a pier, the harbour was filled up with sand, and the pier having been neglected, has gone to ruin. In consequence of this, and of the stoppage of the collieries, the trade of the place is almost extinguished.

BALLYMENA, an inl. town of Ireland, co. Antrim, 23 m. NNW. Belfast, on the Braid, an affluent of the Maine, which flows into Lough Neagh. The town was taken by assault by the insurgents in 1798, after a sharp engagement, but was immediately after evacuated. Pop. 5,600 in 1861, exclusive of a suburb of the town called Harryville, with which together there are 6,774 inhabitants. The census returns of 1861 give 94 families as engaged in agriculture, 569 in trades and manufactures, and 498 in other pursuits. There were 586 males and 654 females returned as belonging to the Established Church; 632 males and 789 females as Roman Catholics, and 1,177 males and 1,372 females as Presbyterians. The town stands in the midst of an extensive plain of uninviting appearance, though pretty well cultivated, and interspersed with low hills, marsh, and bog. The river is crossed by a large stone bridge; many of the houses are antique, with gabled fronts, but those of modern erection are generally of respectable appearance. The ecclesiastical buildings consist of the par. church, a R. Cath. chapel, two places of worship for Presbyterians, one for Sece-

ders, and one for Methodists. The diocesan school of Connor was removed here from Carrickfergus in 1829, and large schools for boys and girls are maintained on an endowment by John Guy. Courts leet and baron are held annually; a manor court monthly, for the recovery of small debts; the general sessions in January and June, alternately with Ballymoney; and petty sessions on alternate Tuesdays: there is a well-arranged bridewell, and a police constabulary station. The town owes its prosperity chiefly to the linen trade; the brown linen sales average 70,000*l.* annually; and upwards of 14,000 pieces are bleached yearly in 14 bleaching-grounds in the neighbourhood. There is a mill for spinning linen yarn. The market for linens is held on Saturdays; there are also two other markets in the week for grain and provisions, principally pork, large quantities of which are sent to Belfast. The market-house is a well-built edifice in the middle of the town. The fairs are held on the 26th July and 21st Oct. A branch of the Provincial Bank was opened here in 1838: of the Belfast and Northern Banks, in 1884; and of the Agricultural Bank, in 1886. The town lies on the mail-coach road from Belfast to Londonderry, and has also a station on the 'Belfast and Northern Counties' line of railway, from which junctions run to Ballymoney, Coleraine, and Portrush. The line to Belfast was opened April 11, 1848, and has proved the commencement of a new era of prosperity for the town.

BALLYMONEY, an inh. town of Ireland, co. Antrim, prov. Ulster, on a small branch of the Lower Bann, 8 m. SE. Coleraine. Pop. 2,600 in 1861, of whom 1,218 males, and 1,387 females. The census returns showed 58 families engaged in agriculture, 225 in trades and manufactures, and 258 in other pursuits. There were 284 males and 261 females returned as members of the Established Church, 380 males and 414 females as Roman Catholics, and 527 males and 642 females as Presbyterians. The town is irregularly built on an eminence, about 9 m. E. of the Bann. Its places of worship are, the par. church, a Rom. Cath. chapel, and houses for Presbyterians, Remonstrants, Seceders, and Covenanters. A school, on the foundation of Erasmus Smith, is established, and several others on private endowments, in which, including private seminaries, about 700 children are instructed. There is a dispensary, and a mendicity association. A steeple chase in December, for a gold cup, has been substituted for races, which had been a favourite sport. A manor court is held on the first Friday of every month; general sessions of the peace in January and June, alternately with Ballymena; and petty sessions on alternate Tuesdays. The court-house is in the centre of the town, and there is a well-arranged bridewell: a chief constabulary station is fixed here. The trade is principally in fine linens, a species of which, called Coleraines, is in great demand: there are two markets for coarse linens. An extensive trade is also carried on in grain, butter, and provisions, which has much increased since the opening of a line of railway in November, 1855, connecting the town with the system of the 'Belfast and Northern Counties' railway. The regular market days are Thursdays; fairs are held on 6th May, 10th July, and 10th Oct. A branch of the Belfast Bank was opened in 1884, and of the Ulster Bank in 1886. The town lies on the railway from Belfast to Londonderry.

BALLYSHANNON, a maritime town of Ireland, co. Donegal, prov. Ulster, on the Erne, where it discharges itself into Ballyshannon Bay, 108 m. NW. Dublin. It consists of three very steep and irregular streets on one side of the

river, and a poor suburb, called the Purl, on the other: the communication between them is by a bridge of 14 arches. The parish church stands on the summit of the hill on which the town is built: there are two Roman Catholic chapels, two places of worship for Methodists, and one for Presbyterians. The population was 3,197 in 1861, of whom 1,408 males and 1,789 females. Of the 704 families, 76 were engaged in agriculture, 252 in trades and manufactures, and 376 in other pursuits. The returns showed 200 males and 282 females belonging to the Established Church, 1,141 males and 1,438 females who were Roman Catholics, and 50 males and 89 females who were Presbyterians. An artillery barrack adjoins the place, and it is a chief constabulary station. The bor. was incorporated by James I., in 1613, and returned two members to the Irish H. of C. till the Union, when it was disfranchised. A manor court for pleas to the amount of 2*l.* is held every three weeks, petty sessions once a fortnight. The court sits in an upper apartment of the market-house, which is also used as an assembly-room. In the immediate vicinity of the town is a magnificent cascade formed by the Erne, here 150 yards broad, throwing its waters over a ridge of rock 16 ft. high, with a noise audible for several miles. Salmon and eels are caught in great numbers; the former chiefly for the British markets: the annual produce is upwards of fifty tons. There are no manufactures of any consequence, and the trade is confined chiefly to retail dealings, owing to the badness of the harbour, which is impracticable for vessels of any draught. A branch of the Provincial Bank was opened in 1885. Markets are held on Tuesdays and Saturdays; fairs on the 18th of Sept., and on the 2nd of every other month. A mail-coach plies between Enniskillen and this town every day in the week, putting it in communication with the railway system of Ireland.

BALTA, a town of European Russia, gov. Podolia, on the Kadynia, 160 m. SE. Kamenetz. Pop. 14,036 in 1858. Its suburb, on the S. side of the river, now in the gov. of Kherson, was formerly in Turkey, while the bulk of the town, or the portion on the N. side of the river, was in Poland. The latter is comparatively well built, and industrious. A very extensive commerce is carried on in grain and other produce of the country.

BALTIC SEA, an internal or mediterranean sea, in the NW. part of Europe, surrounded very nearly enclosed by Sweden, Finland, Russia, Prussia, Germany, and Denmark. It is usually understood to commence S. of the Danish Islands (Funen, Zealand, and Laland), and thus limited, it is the most isolated of any similar body of water in the world. But N. of these islands the Kattegat and the Skager Rack can be regarded only as parts of the Baltic, which may therefore be described as commencing at the Naze of Norway, in long. 7° E., and extending to St. Petersburg on the Gulf of Finland, in long. 30° 28' 45" E. Its extreme points in lat. are Wismar, in Mecklenburg, 55° 50' N., and Tornea, on the Gulf of Bothnia, 65° 51' N. These points mark also its greatest length, which is consequently about 840 m.; its width varies from 75 to 180 m., and its area is estimated at 155,000 sq. m., without including the Kattegat and Skager Rack, for which an addition of 18,000 or 19,000 sq. m. may be made. (Catteau, *Tableau de la Mer Baltique*, i. 2-37; Thomson's *Travels in Sweden*, 384.)

The direction in which the Baltic penetrates the land is extremely tortuous. The Skager Rack, the first great gulf of the North Sea, runs NE. between the shores of Jutland and Norway, for

rather more than 150 m., to the W. coast of Sweden; and the Kattegat, from the Skaw (the N.E. point of Jutland), has a direction almost due S. between Jutland and Sweden for about 120 m. The average width of these gulfs is nearly equal (70 m.); but the former is much the most uniform, the Kattegat being narrowest at its N. end, between the Skaw and Gottenburg, and widening considerably towards the S. From Laholm Bay to the opposite Danish coast is full 100 m. The two Belts and the Sound are the three straits which connect the Kattegat with the Baltic, properly so called; and their direction is the same as that of the gulf in which they terminate, namely S. This sea has been so long known to Europeans, that its peculiar entrance has ceased to excite attention; yet there is not one, perhaps, where navigation is so intricate. The direct distance between the Kattegat and the open sea of the Baltic, is less than 110 m.; that between the shores of Jutland and Sweden is no where more than 180 m.; and in this space, which would not be accounted large, even were it clear, are crowded between sixty and 70 islands, with shoals and sand banks innumerable. Two of these islands, Funen and Zealand, may be called large, and some of the others, as Alten, Langeland, Laland, Falster, and Moen, of respectable size, their situation in a close sea being considered. It is the two large islands which, with the Danish and Swedish coasts, form the three straits; the smaller isles and sand banks serving to break up their channels, which would otherwise be sufficiently direct, into many small and variable currents. The Little Belt (the strait between Jutland and Funen) is, at its N. end, less than $\frac{3}{4}$ m. in width. It expands, however, immediately, and between Arøesund and Assens is 8 m. broad. Still further S. the continent recedes into a great bay; and the island becoming broken up into several smaller islets, the greatest width of the Little Belt is, perhaps, not less than 45 m. Its most S. channel contracts again to about 8 m., between the islands of Alten and Æroe. The Great Belt (between Funen and Zealand) is more uniform in its width, which averages about 20 m. Towards the S., however, this strait also stretches out W. into a large bay, formed by the islands of Zealand and Laland, and at its S. termination it is divided into two channels by the island of Langeland, of which the widest or most E., between Langeland and Laland, is about 8 m. across, the other not more than 4 m. The Sound, at its entrance between Elsinore in Zealand and Helsingburg on the coast of Sweden, is about 4 m. wide; but it spreads into a succession of bays upon the Swedish shore, and towards its S. end, into one of considerable size (Kidge Bay) on that of Zealand. It is here about 28 m. across, but the return of the land contracts its final outlet to about half that amount. (Catteau, i. 2-26; Thomson, 885; Carr., Northern Summer, 27, 30, 102, &c.)

The direction of the sea from these straits is first E. to Memel (about 800 m.), and then N. as far as the lat. of Stockholm, $59^{\circ} 21'$, a distance of 350 m. It is to these portions that the term BALTIC SEA, in its limited sense, is restricted, for at this point it separates into two great gulfs; of which one, the Gulf of Finland, runs nearly due E. between the Russian territories of Finland and Revel; the other, the Gulf of Bothnia, a little E. of N., between Finland and Sweden. The Gulf of Finland is 200 m. in length, with a mean breadth of 60 or 70 m.; that of Bothnia is about 400 m. long, and 120 m. in average width, but at its narrowest part, the Quarken, opposite Umea, it does

not much exceed 40 m. The Gulf of Riga, or Livonia, S. of that of Finland, is also an important inlet, stretching into the countries from which it is named, about 83 m. from E. to W., and about 90 m. from N. to S. (Catteau, i. 27-114; Thomson, 826.) Beyond the Danish islands the Baltic is a tolerably clear sea, except on the coasts, where alluvial islands are continually forming. In the main stream the only interruptions to the continuity of water are found in Rugen (which is, however, close to the Pomeranian shore); Bornholm, between the coasts of Prussia and Sweden, but much nearer to the latter than the former; Geland, on the SE. of Sweden; Gothland, NE. of Oeland; Oesel, Dago, and several smaller islands between the Gulfs of Riga and Finland; and the Åland archipelago at the mouth of the Gulf of Bothnia. Opposite to these last the SW. coast of Finland is crowded with an innumerable quantity of islets, which seem as though the main shore were advancing by rapid strides to join the larger islands of Åland, as a stage in its progress towards a junction with the opposite Swedish shore. (See ALAND, BORNHOLM, GOTHLAND.)

The Baltic is not, like other close seas, the Mediterranean, Red Sea, &c., shut in by rocks and high mountains. On the NW. and N., indeed, the mountains of Sweden and Norway form a sufficiently definite boundary; but, towards the E., SE., S., and even SW., its borders stretch away in plains occupying much more than half Europe. On the S. the nearest high lands are the Hartz, the Bohemian mountains, and the Carpathians; SW. lie the flat lands of Jutland, Holstein, and Holland; SE. the plain is unbroken to the shores of the Black Sea and Caspian; and E. there are no hills except the insignificant elevations of Valдай, between the Baltic and the Oural mountains. The basin of this sea is, therefore, by no means well defined, except towards the N. and NW. In every other direction it has to be determined by the direction of the running water only, and that on land so level that the basin of the Baltic is constantly combining with those of other seas; with that of the White Sea, through the lakes of Russian Lapland; with that of the Caspian, by the close approach of many of the affluents of the Volga to Lakes Onega and Ladoga; and with that of the Black Sea, among the innumerable streams of Lithuania and Poland. Thus the limits of the basin are in lat. 49° and 69° N., in long. $7^{\circ} 40'$ E. (Arrowsmith's Atlas; Von Buch's Travels, 387; Catteau, ii. 44, &c.) With the exception of some portions of America, there is no part of the world more abundantly watered than this district: upwards of 240 rivers find their way to the Baltic; the lakes in its neighbourhood are all but innumerable, and altogether this sea drains more than a fifth part of the whole surface of Europe. The rivers which flow from the S. and SE. run the longest courses, varying from 330 to 750 m. (See ODER, VISTULA, NIEMEN, DWINA, &c.) Some of those from the E. appear at first to be much shorter, as the Neva, which from Lake Ladoga does not exceed 45 m.: but as this lake is connected with that of Onega by the Svix, and as Onega receives the Volla, a stream rising close to the 40th meridian, the whole of this water course is not less than 400 m. in length. The other Finnish rivers are not long; but W. of the Gulf of Bothnia the rivers of Sweden vary from 200 to 800 miles. The most peculiar part of this basin is the SW. corner, where, though the nearest mountains are those of the Hartz, the basin itself does not exceed 20 or 25 m. in width. The Elbe, which runs within 50 m. of the Baltic, and the Eyder, which rises close to its shores, fall into the

North Sea, and their affluents belong of course to that system; but such is the flatness of the country in this part of Germany, that the different waters are constantly uniting, and a canal of less than 3 m. has served to connect the Baltic with the Elbe by joining the rivers Trave and Stricknitz, below Lubeck. A similar junction has been effected between the Baltic and the Eyder, a little to the N. of Kiel. Since the cession of the Schleswig-Holstein peninsula by Denmark, the Prussian government has undertaken to connect the Baltic with the North Sea, by means of a large canal, deep enough for sea-going vessels. The canal, which crosses the southern part of Schleswig, where the peninsula is narrowest, was commenced in 1865.

The Baltic is extremely shallow, being not more in its W. part, between Kiel and Copenhagen, than 16 fathoms deep, and most commonly not more than 8 or 10 (Von Buch, 10); but farther E. it deepens considerably, and midway between Memel and Oeland it is from 60 to 100 fathoms. This is, however, its greatest depth, for the Gulf of Finland suddenly shallows from 50 or 60 fathoms to 16 fathoms, 4 fathoms, and, in the Bay of Cronstadt, to even less than this. The average depth of the Gulf of Bothnia is not greater than that of the rest of the sea, but it is less encumbered with sand banks, and its harbours are more convenient: none of those S. and E. of the Gulf of Finland have more than 20 ft. water, and but few have as much as 16. (Catteau, i. 39-114.)

The Baltic, being a close sea, with its entrance from the approach of the tidal wave, is, of course, not subject to the phenomena of tides. These, so very powerful in the German Ocean, are found to decrease sensibly in the Skager Rack and Kattegat, to be barely perceptible in the entrance of the straits, and entirely to vanish S. of the Danish Islands. (Catteau, i. 115-118.) But though tides be wanting, a variation in height equal, frequently, to four feet is observed, at irregular intervals, in the waters of this sea. This phenomenon occurs at all seasons, but chiefly in the autumn or winter, or at the time of heavy rains, or when the atmosphere is charged with clouds, though unattended by falling weather. The water maintains its height frequently for several days, sometimes even for weeks, produces considerable agitation in the gulfs and straits, and, except in winter, when its power is restrained by the accumulated snow and ice, inundates the low wastes to a considerable extent. Prevalent winds, flooding rains, melting snows, and many other causes, have been assigned for this very remarkable phenomenon, which continued, however, to occur under circumstances totally incompatible with any or all of these; but in 1804 Schultens, a Swedish physician, after collecting all the observations that had been made, found that the greatest height of the water corresponded to the greatest depression of the barometrical column and conversely. The extreme variation of the latter amounts in N. Europe to $2\frac{1}{2}$ in., equivalent to nearly 34 in. of water: and combining this with the fact, that the movement of the water always preceded, by a little, that of the mercury, he concluded that the former was owing to the unequal pressure of the atmosphere upon different parts of the surface; the extreme height sometimes attained being dependent upon local and accidental circumstances. The almost total absence of oceanic action in this sea leaves the cause, thus assigned, to operate with full power; and if Schultens' hypothesis be confirmed, it will serve to explain similar phenomena, observed in other close waters;

as the Caspian, Lake Baikal, and the Lake of Geneva, to the similar variations in which Saussure has assigned a cause analogous to that offered by Schultens in the case of the Baltic. (Mem. Acad. Stock. 1804; Saussure's Voyage dans les Alpes, i. 15.)

The currents of the Baltic depend, in a great degree, upon its rivers; and as these exist in the greatest number towards the N. and E. parts, the general direction of the water is from NNE. to SSW., as far, at least, as the latitude of Konigsberg. The impulse from the S. here given by the great rivers of Prussia aids the resistance of the land to turn the current W., towards the Danish islands, among which it of course becomes broken into many parts, all combining at last in a general N. direction through the Kattegat, and thence SW. through the Skager Rack into the N. Sea. The currents of the Baltic are, therefore, outward; and when a W. wind forces the water of the ocean into its gulfs, these currents, always intricate, become extremely complicated, and even dangerous. (Catteau, i. 125-132.) This general direction of the water, together with the number of rivers which flow into the Baltic, account for the very slight degree of saltiness which it is found to possess. It is well known that the ocean holds in solution salt, muriate of magnesia, sulphate of lime, and sulphate of soda, to the amount of about 1-27th of its own weight; but at Copenhagen, Von Buch found this proportion reduced to considerably less than 1-100th; and Thomson, at Tunaberg, S. of Stockholm, found it less than 1-210ths—a quantity so slight as scarcely to affect the palate; and it is said that farther to the N. and E. the sailors commonly use the water of the Baltic for their food. The following is the relative gravity of the waters of the Ocean and of the Baltic, under various circumstances; for, it is to be observed that the latter becomes much saltier, under a W. wind, when the water of the ocean is forced into it, and that this effect is perceptible for a considerable distance:—

	Sp. Gr.	Baltic at the Scaw	Sp. Gr.
Open sea at Heligoland . . .	1.0321	Sound . . .	1.0033
Frith of Forth . . .	1.0290	Tunaberg . . .	1.0047

In a NW. wind the gravity at Copenhagen rose to 1.0189; and near Stockholm the following changes were observed, under the various circumstances:—

	Sp. Gr.	Storm at W.	Sp. Gr.
Wind E. . .	1.0039	Wind NW. . .	1.0118
Wind W. . .	1.0067		1.0093

Lastly, the quantity of salt procured from 1,000 grains of water, from the following places, was as under:—

	Gr.	Sound . . .	Gr.
Frith of Forth . . .	36.6	Tunaberg . . .	11.2
Scaw . . .	32.0		7.4

When it is considered that all these experiments were made S. of the lat. of Stockholm ($59^{\circ} 21'$), and that an immense number of rivers flow into the Gulf of Bothnia, it seems reasonable to conclude that the N. part of that gulf should be still less salt, if, indeed, it be not free from any saline mixture whatever. (Von Buch, 10; Thomson, 386-390.) The experiments of Von Buch and Thomson, conducted independently, and with every possible care, must be received as satisfactory; but it is, perhaps, necessary to observe that Catteau gives the amount of salt held in solution by the Baltic, generally at 1-30th to 1-40th of the water. (i. 142.) It is not, however, possible to reconcile this statement with others by the same author: such as, that in many bays the water is used for cooking; that in summer the

Gulf of Bothnia yields only 1 ton of salt from 800 tons of water, and that the specific gravity varies between 1.0126, 1.0047, 1.0041, and 1.0088. (i. 144.) Neither is this quantity of salt consistent with the following table of the relative amount in 8 lbs. (German) of water taken from the N. Sea and Baltic; which is given by Catteau, on the authority of Halem and Vogel (i. 143.):—

	N. Sea	Baltic
	Gr.	Gr.
Muriate of Soda . . .	522	263
— Magnesia . . .	196 $\frac{1}{2}$	111
Sulphate of Lime . . .	23	12
— Soda . . .	1 1-3d	1
Residuum . . .	1 $\frac{1}{2}$	1
Total . . .	746 1-3d	388

The German pound is a variable weight, but it is no where lighter than the English, and in most places on the Baltic it is from 400 to 500 gr. heavier; taking, however, the English pound of 7,000 grains, the above results give less than 1-5th, and not 1-40th, far less 1-80th, as the proportion of salt to the water of the Baltic. The proportion of the N. Sea is about 1-28th, differing very little from that assigned above.

This freshness of the water combines with its shallowness and confined situation to render it peculiarly liable to congelation; in fact, it is every year encumbered with ice, and its straits are usually impassable from December to April. Severe frosts made the sea passable in its widest parts, between Prussia and Denmark, in 1333, 1399, 1423, and 1429. The climate, like that of all Europe, and more especially of Germany, has become more mild under the effects of better drainage and cultivation; but, even within recent times, Charles XII. marched across the Sound and the two Belts to the attack of Denmark, and so late as 1809 a Russian army crossed the Gulf of Bothnia on the ice. (Catteau, i. 146-158; Thomson, 180, 188.) The temperature in the neighbourhood of this sea does not appear to diminish with increase of lat. so much as might be expected: at Tornæ, nearly 66° N., Von Buch affirms that the season does not differ from that of N. Germany by more than a month; and that the polar winter does not set in till the end of November.

The productions, animal and vegetable, of the surrounding countries are somewhat modified by the presence of this considerable body of internal water. (See SWEDEN, DENMARK, PRUSSIA, FINLAND, &c.) The sea itself is extremely rich in fish of many varieties; the taking of which forms an important branch of industry in all the neighbouring countries. The larger amphibia—morses, lamantins, &c., are absent; but seals are very plentiful, not only in the sea, but in the neighbouring lakes of Ladoga, Onega, &c.; they do not form a part of human food, as in other less fertile countries of the North, but are chased with great avidity for their oil and skins. Whales are stated to be sometimes of enormous dimensions, but are very rarely found: one was seen in the Gulf of Bothnia, in July 1811; but this, like every other appearance of the animal, was regarded by the inhabitants as an evil omen. Of other and smaller cetacea, the marsouin (*Delphinus Phocaena* of Linnaeus) is common enough in the Baltic. (Catteau, i. 199-251.)

Of the often asserted important fact that the Baltic is decreasing, there can be little reasonable doubt, the nature of the surrounding countries and recent observations being taken into consideration.

The innumerable lakes that lie between it and the White Sea are nothing but the last remains of a once continuous sea; which may be considered as proved by the appearance of similar animals in these waters, though now fresh, and the broad band of tertiary strata which extends throughout the whole space. (Lyell, Prin. Geol., i. 209.) On the S., even within the period of modern history, great changes have taken place. Lubeck, which when first built was undoubtedly a sea-port, is now 12 m. from the shore, and incessant pains are requisite to preserve its communication with it by the channel of the Trave. The numerous lakes of N. Germany, like those of Finland, are but the last remnants of the sea, which once and lately lay upon the soil, as is incontestably proved by the continual choking up of some, and the constant detaching of others, from the main body of water by the deposits brought down by the rivers. The Haffs of Prussia are now quite detached; the Isle of Rugen is all but joined to the German continent; while its former division into several separate islands is attested by the different names bestowed upon its different parts; of which *Rugen Anseich*, in the language of the country, means Rugen Proper. Similar instances might be accumulated all along this coast, all parts of which are full of evidences of the same gradual and rapid changes. (De Luc, 200, 286, 243, 247, 276, *et pass.*); and were other proof wanting, it would be found in the extensive mosses abounding in marine plants, which constitute so great a part of N. Germany. (Von Buch, 2; De Luc, 192, *et pass.*) In the N., on the Gulf of Bothnia, the same decrease is going on with equal, if not greater, rapidity (Von Buch, 386); and though it is certain that the surface of the sea cannot sink, this the laws of equilibrium would prevent; yet, from every observation, it is no less evident that its bed is filling up, and that the surrounding land is slowly (perhaps not very slowly) rising. Olaf Dalin, a Swedish mathematician of the last century, calculated the change at 1 inch per annum; and judging by the very evident alterations in many parts, this is not probably too high, though the hypothesis was held in scorn when first broached. (Algarotti's Letters, 86.) As the same operation may be traced on the shores of the Caspian and Black Seas (see CASPIAN and BLACK SEA), there can be little doubt but that these are the last drainings of the European plain towards the SE., as the Baltic is towards the NW., or that these waters were once in connection; the very trifling elevation between their basins serving to determine the direction of the rivers, and the consequent deposit of new land. (See Lyell's Geol. Map of Europe, i. 209.) One of the most peculiar appearances on the shores of the Baltic consists of the immense number of granite blocks, boulders, as they are called, with which the alluvial soil is everywhere covered: after all that has been said upon this subject, the appearance of these anomalous masses continues a mystery. The opinion of De Luc, that they were forced by explosion through the superstrata, is perhaps the least objectionable; at all events, it is less violent than the supposition that they were floated from a distance upon water or ice. (Geol. Trav., 59-76, *et pass.*)

Commerce.—The Oder, Vistula, and other great rivers that have their embouchures in the Baltic, and the many large cities that are built on or near its shores, have made it the theatre of a very extensive commerce. In this respect its importance was much increased by the foundation of Petersburg, the trade of which is now of great extent and value. Raw products, including corn, timber, hemp and flax, tallow, hides, linseed, bristles,

wool, &c., constitute the principal articles of export from the Baltic ports; colonial products, manufactured goods, dry stuffs, wines, salt, coal, &c., being among the principal articles of import. The leading ports, setting out from the Sound, are Copenhagen, Lübeck, Wismar, Rostock, Swinemunde, Dantzic (which, next to Odessa, is the principal port, not in Europe only but in the world, for the shipment of wheat), Königsberg, Memel, Riga, Petersburg, and Stockholm. The U. Kingdom has by far the largest portion of the foreign trade of the Baltic. The vast importance of the commerce in wheat alone is shown in the subjoined statement, which gives the value of the imports of this article from the various ports of the Baltic into the United Kingdom during each of the three years 1862, 1863, and 1864:—

Imports of Wheat	1862	1863	1864
	£	£	£
From Russia . .	3,128,060	2,039,281	2,152,201
„ Prussia . .	4,014,047	2,531,096	2,497,047
„ Denmark . .	375,459	273,568	434,782
„ Mecklenburg	262,472	211,702	331,936

The vast commercial intercourse of the ports of the Baltic with Great Britain is further shown by the navigation returns, which state that in the year 1864 there arrived 3,412 vessels, of an aggregate burthen of 776,636 tons, from the northern ports of Russia; 2,714 vessels, of 532,696 tons from Prussia; 1,680 vessels, of 194,967 tons from Denmark; and 1,266 vessels, of 481,393 tons from Mecklenburg and the Duchies. This gives a total of nearly 10,000 vessels sailing annually from the Baltic into ports of the United Kingdom.

The ancients were but very slightly acquainted with the Baltic: it is mentioned by them under the title of *Sinus Codanus* (Gulf of the Goth Dane); but it was the theatre of those marvels which, in ancient geography, always mark imperfect knowledge. Its shores gave forth, however, the warriors who overthrew the Roman empire, and laid the foundations of modern European society. In modern times its straits are more crowded with ships of all nations than those of any other inland sea. Large quantities of amber are collected on its shores, especially those of Prussia, and the isle of Rugen. (Catteau, i. 189-251.) The origin of the name Baltic has divided etymologists. Some derive it from the Danish *Belt* (a girdle), and others from the word *Balta*, which, in the Lithuanian tongue, signifies White. The great quantity of snow which annually falls in its neighbourhood, renders this last derivation far from improbable, though the former be evidently not less applicable; at all events, the name has existed from very early times, though at present the general designation, used by the inhabitants of its shores, is *Est-see* (Eastern Sea), as serving to distinguish it from the Atlantic, or *Western Ocean*.

BALTIMORE, a marit. city of N. America, the third in point of size and importance in the United States, and the principal city, though not the cap. of the state of Maryland, on the N. side of Patuxent Bay, 14 m. above its entrance into the Chesapeake, 87 m. N.E. Washington, and 100 m. SW. Philadelphia, on the Baltimore and Ohio railway. Pop. in 1800, 23,971; in 1830, 62,738; in 1840, 184,379; in 1850, 169,054; and in 1860, 212,418. The town is pleasantly situated, on slightly undulating ground, and is built round a basin or inner harbour, which affords a spacious, secure, and commodious harbour for vessels of 200 tons, quite close up to the town. The principal part of the city is divided from the portions styled Old Town and Fell's Point, by a small

river called Jones's Falls, over which are erected three handsome stone bridges and four wooden ones. In the outer harbour, near Fell's Point, vessels of 500 or 600 tons lie in perfect safety. The entrance to the harbour is narrow, and effectually commanded and defended by Fort M'Henry. The city is regularly laid out and well built; streets generally spacious and well paved, and houses neat and commodious. The principal public buildings are the exchange, court-house, college, and university halls; three hospitals, a penitentiary, gaol, circus, two theatres, six market-houses, and fifty-six places of worship. The exchange is a large and handsome edifice, 366 ft. by 140; the Roman Catholic cathedral is perhaps the finest church in the country, and contains some good paintings; the Unitarian church, St. Paul's church, the court-house, Union Bank, and several other of the public buildings, are both spacious and elegant. St. Mary's College is a Catholic institution, and has a library containing 30,000 vols. The medical college, now the university, received that title with a new charter in 1812: the city contains, besides, a museum and a gallery of paintings. The houses are mostly of brick; the principal street, about 1 m. long and 80 ft. wide, runs parallel to the water. On an elevation, above the compact part of the city, is the Washington monument, a Doric column of white marble, 140 ft. in height, and 20 ft. in diameter, standing upon a base 50 ft. square, and 23 ft. high; containing a circular staircase, by which visitors ascend to the summit, on which a colossal statue of Washington is placed. It is by far the most splendid structure of its kind in the Union. The Battle monument, an elegant marble obelisk, 85 ft. high, is erected to the memory of those who fell in the defence of the city and Fort M'Henry, in 1814, and is inscribed with their names. The city is supplied with excellent water from four fountains, which are also ornamental structures. Baltimore is admirably situated for commerce, and is a place of considerable wealth and trade; it engrosses most part of the trade of Maryland, together with half that of Pennsylvania, and part of that of W. Virginia and the Western states. Its inland communication has been much extended and facilitated by the construction of canals, and of the Baltimore and Ohio railway.

The subjoined statement, drawn up from official returns, gives the exports of Baltimore, in the two years 1863 and 1864:—

EXPORTS OF BALTIMORE.

Articles	1864	1863
Bread packages	25,876	19,700
Beef tierces	1,316	1,193
„ barrels	1,769	874
Bacon lbs.	557,085	4,748,100
Butter „	139,768	296,000
Cheese „	222,169	165,000
Corn bushels	101,544	271,016
Candles lbs.	661,468	523,900
Copper „	422,180	—
Flour, Wheat barrels	333,042	326,450
Lumber dollars	212,467	130,000
Lard lbs.	2,500,564	3,567,900
Pork barrels	5,803	6,173
Rye, Oats, &c. bushels	20,000	25,000
Shooks and Heads packages	125,970	—
Sugar, refined lbs.	430,386	—
„ raw „	972,000	—
Tobacco, Leaf hogshead	45,252	37,943
„ manufactured lbs.	63,827	90,000
Wheat bushels	60,092	84,374

The following table shows the value of the imports and exports of Baltimore for ten years:—

Years	Imports	Exports
	Dollars	Dollars
1855	7,772,591	11,675,996
1856	10,140,838	18,362,252
1857	11,054,676	11,898,940
1858	7,954,422	10,255,890
1859	10,408,993	8,724,261
1860	9,379,121	10,913,170
1861	5,534,411	11,471,790
1862	3,466,458	10,346,164
1863	5,386,704	9,967,903
1864	6,076,299	12,367,448

The fluctuations visible in the above table mark the civil war in the United States, which greatly affected the trade of Baltimore. (Report by Mr. Consul Bernal on the Trade of Baltimore in 1864, in Consular Reports.)

There are in the vicinity numerous cotton manufactories, and flour and other mills in operation. A part of the city is low, and was formerly accounted unhealthy; but this has been obviated by the filling up of the marshy grounds. To the N. and E. the land rises to a considerable elevation, and affords a beautiful prospect of the city and surrounding country. The citizens of Baltimore are distinguished as well for bold and persevering enterprise, as for hospitality and agreeable manners. Baltimore has had a remarkably rapid growth. It was first laid out as a town in 1729; in 1765 it contained only about fifty houses; it was first erected into a city in 1797. A formidable but unsuccessful attack was made on it in 1814, by a British force under General Ross.

BALTIMORE, a marit. town of Ireland, co. Cork, prov. Munster, on a bay of the same name, near Cape Clear Island; 46 m. WSW. Cork. The pop. which, in 1881, was 459, had sunk, in 1861, to 145. In appearance and accommodation it is merely a village, and claims rank as a town only from having been incorporated, and being a port. The houses, twenty-six in number, are built round the remains of the old castle. Baltimore was incorporated by James I., in 1618, and sent two members to the Irish H. of C. till the Union, when it ceased to be represented, and its other privileges fell into disuse. The jurisdiction of the port extends from Mill Cove to Galley Head, including the creeks of Berehaven, Bantry, Koss, Glendore, and Castle Townshend.

BALTINGLASS, a par. and town of Ireland, co. Wicklow. The town is situated on the S. side of the Slaney, 84 m. SW. Dublin. Pop. of par., in 1861, 2,649; of town, 1,804. The latter is remarkable only from a parliament having been once held in it, and from its having formerly returned two members to the Irish H. of C.

BAMBARRA, a considerable country of interior Africa, the precise position of which is far from being accurately ascertained. On Rennell's map to Park's first expedition, its lat. is given from 12° to 15° 22' N.; its long. from 15° E. to 5° 20' W. The map to the last journal of Park makes the lat. extend from 11° 15' to 16° 26' N.; the long. from 1° 35' E. to 4° 52' W. (See also, Advertisement, Park's Second Journal.) And, lastly, Caillié appears to place it between 9° 20' and 14° N. lat., and between 4° 40' and 9° 20' W. long. (Travels, 2nd Map, i. 364, *et seq.*) A mean among these different statements will give about 400 m. for its greatest length, from NW. to SE., and about 800 m. for its greatest breadth, in the direction of the meridian. Upon Park's map, the area is about 50,000 sq. m.; but of course little reliance can be placed upon the accuracy of these results. The names of the surrounding countries are known with more certainty; they are, on the

E., Gotto, Baedoo, and Maniana; on the S., the Mandingo country and district of Kong; on the W. Kaarta; and on the N. and NE., Beeroo and the tributary kingdom of Masina. (Park, pp. 92, 140, 216, &c., and Map.) Bambarra is, for the most part, a plain country, with a general inclination to the N. and E. The W. portion is, however, mountainous, or rather hilly, and forms the E. termination of the high lands of Kaarta, Manding, &c. These mountains are of granite and other old formations, but of no great height; and the soil, both on their sides and on the plains, though in the immediate neighbourhood of the Sahara, is generally good. The Niger, Joliba or Quorra, has its rise about 150 m. SW. from the frontiers of Bambarra, and flows through the whole length of that county from SW. to NE. It is an important stream at this early part of its course, but by no means so gigantic as it afterwards becomes. At Sego, the Bambarra capital, it is about the size of the Thames at Westminster. (Park, p. 194.) There is no other river of importance in the country, but the smaller water-courses are innumerable; they all overflow during the rainy season, which lasts full 5½ months, so that the moisture is fully sufficient to render the land in a very high degree productive. The climate is one of intense heat, especially in the N., where the land borders upon the desert; but, upon the whole, the temperature is more endurable in Bambarra than in some of the neighbouring countries; and in the S. parts it is cold enough in the rainy season to render a fire desirable. (Caillié, i. 327.) The rainy season extends from June to November, and is ushered in by violent tornadoes. Its termination is usually marked by the dry NE. wind called Harmattan (see ASHANTEE), which is here, however, not cold, as on the coast of Guinea, and, so far from being dreaded, is accounted salubrious, particularly to Europeans, from the rapidity with which it absorbs the superabundant moisture of the air.

The mountains are said to be rich in gold, but less so than in Jallonkadoo and other countries further W. They also produce iron, and there can be little doubt but that a well-directed industry would turn their mineral treasures to account. Vegetation is varied and abundant; of trees there are the immense baobab, the bombax (silk cotton), oil palms, dates, tamarind, and a great variety of forest trees. The earth produces, with little labour, yams, cassava, maize, small millet, foigne, rice, &c., many of which yield two crops a year; and the lotus (*Rhamnus lotus* of Linnaeus) is an important article of food. The tropical fruits, so common in Guinea, are, however, very scarce here; Park (p. 260) did not meet with the pine-apple, orange, or banana, except near the mouth of the Gambia; and though Caillié (i. 181) mentions them, their locality is fixed by him also near the coast, and consequently at a considerable distance from Bambarra. The most remarkable production of this country is the shea, or butter-tree, a plant about the size and appearance of the American oak, the oleaginous fruit of which answers every purpose of butter made from cow's milk, combined with the advantage of preserving its firmness and sweetness for the whole year without salt. This last is an article peculiarly deficient in Bambarra and the neighbouring countries; so much so as to be a valuable article of foreign commerce, and bought at a high rate with the corn and gold dust of the district. Tobacco is cultivated in many parts with great success. The animals, except monkeys, which are strangers, are the same as those of tropical Africa generally; lions, tigers, wolves, panthers, elephants, camels, giraffes; and

antelopes. Cattle are not abundant, neither do sheep or hogs appear to be plentiful, but goats and dogs are very numerous. There are birds of many species, and a great variety of reptiles, among which are crocodiles, in the river, but these do not appear to be particularly dangerous; the hosts of powerful and venomous insects are regarded with a much greater degree of apprehension.

The natives of Bambarra are a part of the great Mandingo family, which extends from the W. coast to the river Niger (see MANDINGO); they speak the same language, though with a peculiar dialect; and their habits, appearance, and general attainments are the same. The towns and villages are very populous, some of them containing as many as 80,000 inhabitants; but, on the other hand, the open country is utterly deserted; for which, two reasons may be assigned, viz. the constant danger from wild beasts, and the constant wars between the different states and princes. From Park's account of the pop. of Sego, Sansanding, Wapola, and other towns, combined with the number of such towns which appear on his map, it may perhaps be inferred, that Bambarra contains altogether between 2,000,000 and 3,000,000; of whom 3-4ths at least are slaves. In customs they do not materially differ from other negroes; they are tolerable agriculturists, work in gold and iron, and tan, dress, and manufacture leather. These are the only arts which are held in esteem, as distinct callings; but spinning, weaving, and dyeing are very diligently performed by the women, and the Bambarra cloth, though coarse, is soft and durable, and generally of a rich, lasting, blue colour. A pretty extensive trade is carried on with the Moors of the desert, the more remote kingdoms of Timbuctoo and Houssa, the territory of Kong, and even with Ashantee and Senegambia. Their exports are iron, cloth, ivory, and slaves; their imports consist of salt, with a few Manchester goods, some hardware, and arms. In skill, refinement, and cleanliness they are far below the negroes of the Gold Coast; but in moral feeling they appear to be above them; their slaves, who are of two kinds, native born and foreigners, either purchased or captured in war, are usually treated with kindness; the disgusting cruelties which mark the festivals of the Guinea Negroes (see ASHANTEE) are unknown among them; and they are said to be anxious (especially the women) to assist, to the utmost of their power, the sick and unfortunate. The government is rather oligarchical than monarchical; the king is nominally the head of the state, but he appears to have little more power than to recommend certain lines of conduct to the *dooties* (governors) of towns, which recommendation is not always attended to. The Moors of N. Africa long since introduced Mohammedanism among the tribes S. of the desert; the great majority of these retain, however, their old faith, which, in Bambarra, seems to extend no farther than a general acknowledgment of a supreme being and a future state, with a periodical assembling for worship, only at the time of the full moon. The only religious buildings are the mosques, the ministers of which are also *school-masters*; for instruction, to some small extent, is given to the young Negroes, but it is in Arabic, or perhaps, in some cases, in the native language, written in the Arabic character, there being no Negro tongue which possesses an alphabet. The Moslem Bambarrans are called Bushrunns, the Pagans, Kafirs or infidels. Polygamy is common with both sects; and among their marriage laws is one which is rather peculiar—a woman may refuse to become a wife, but should she, after that, contract marriage with another, the first suitor has

the power of seizing her as a slave. The domestic relations are, however, generally maintained with great kindness, and the affection of children to their mothers is touching and peculiar. The food is usually vegetable; the amusements, music, dancing, and singing; and the effect of simple diet, and cheerful or rather thoughtless disposition, is evinced by the fact, that though the climate breeds fevers, fluxes, yaws, elephantiasis, leprosy, and guinea-worm, the Bambarrans, as a people, must be described as healthy, though they do not usually attain to any very great age. (Park's Travels, pp. 185-328; Caillie, i. 321-475.)

BAMBERG, a town of Bavaria, circ. Upper Mayne, on a piece of uneven ground on the banks of the Regnitz, about 8 m. above its confluence with the Mayne, 33 m. N. Nuremberg, on the railway from Nuremberg to the north of Germany. Pop. 23,542 in 1861. The Regnitz divides it into three parts, the communication between them being maintained by two bridges. It is well built, paved, and lighted, and is partially surrounded by ramparts and fosses. Among the public buildings is the cathedral, a noble structure in the Byzantine style, founded in 1004, and finished, after being partially burnt down, in 1110. It contains tombs of its founder, the emperor Henry II., and of his spouse, the empress Cunigunda, with that of Pope Clement II., &c. St. Martin's church, erected by the Jesuits, is a fine building. The church and old convent of St. Michael occupy a height adjoining that on which the cathedral stands. The convent has been converted into a poor-house. There is also a *schloss*, or palace, formerly the residence of the bishops, or princes of Bamberg, a plain building of considerable extent, with a gallery of bad pictures; a town-house, and theatre. Bamberg is the residence of an archbishop, and has numerous literary and charitable institutions. At the head of the former may be placed the lyceum and gymnasium, that have replaced the old university, suppressed in 1585, and which furnish a very complete course of instruction for between 700 and 800 pupils: it has also a seminary for the instruction of schoolmasters, a school for mechanics, a museum of natural history, a royal library with nearly 80,000 volumes, and numerous literary societies and private collections of books and pictures. The infirmary has surgical, anatomical, and other medical schools attached to it, and a botanical garden. Large quantities of beer, in much repute in the surrounding country, are produced here; and there are also manufactures of gloves, jewellery, wax, tobacco, porcelain, &c. A great deal of liquorice is raised in the environs; and its preparation forms a considerable branch of business. Garden seeds are also largely produced. It has two annual fairs, and is the centre of a considerable commerce which has greatly extended, since the opening of two lines of railway which place it into direct communication with Frankfort, Berlin, Munich, and all the important towns of Germany. Bamberg was formerly the capital of an independent bishopric, secularised in 1801, and assigned in 1803 to Bavaria.

BAMBOROUGH, a small town of England, on the coast of Northumberland, nearly opposite to the Fern Islands, and 17 m. SE. Berwick-on-Tweed. Though once considerable, it had only 403 inhabitants at the census of 1861, and would be scarcely worth notice were it not for its old castle. The latter, which is very extensive, and in good preservation, is built on a basaltic rock, 150 ft. above the level of the sea, from which it is a most conspicuous object. The castle and some other property having been purchased by Lord Crewe, bishop of Durham, he bequeathed it, in 1720,

for charitable purposes. In pursuance of the benevolent intentions of the founder, the castle has been partially renovated and repaired. Watch is constantly kept, and signals made from the tower in hazy weather, to warn ships of their approach to this dangerous coast; a life-boat is also kept in readiness, and the most efficient measures adopted, not merely for the prevention of shipwreck, but for the relief of those who have undergone that misfortune. A school on the Madras system is established in the castle, in which there are also a library and a dispensary. The population of the castle is given in the census returns of 1861 at 88.

BAMBOUK, a country in the interior of W. Africa, in about from $12\frac{1}{2}^{\circ}$ to $14\frac{1}{2}^{\circ}$ N. lat., and from $10\frac{1}{2}^{\circ}$ to $12\frac{1}{2}^{\circ}$ W. long. In form it is nearly a parallelogram, 140 m. in length, and 100 in width, and containing apparently about 14,000 sq. m. in area; but, as the travellers in the country had frequently no better means of determining positions than by estimating distances and marking courses, the accuracy of these observations cannot be much relied on. The surrounding countries are Kajaaga, or Galam, and Kaseon on the NW. and N.; Brooko and Fooladoo on the E.; Worada on the S.; and Dentilla and Bondou on the W. (*Voyage au Pays de Bambouk*, Paris, 1789, p. 1; Labat, *Nouvelle Relation de l'Afrique Occ.*, iv. 1; Golberry, *Voy. en Afrique*, i. 880; Park, *1st Journ.*, p. 63,—*2nd Journ.*, p. 51; Houghton, *Afric. Assoc.*, cap. xiii. 9, &c.)

Bambouk is a mountain country, most probably a table-land, near the centre of the Senegal system, with a general inclination towards the N. and NW. In some places it is very rugged, though the peaks do not appear any where to attain a great elevation: the highest are not more than 600 ft., and those in the S. rarely exceed 800 ft. above the general level of the land, which, however, must itself be considerably higher than the sea. Glens and valleys of the most romantic kind are scattered among these mountains, and they are skirted by plains of some considerable extent. (Park, *2nd Voy.*, pp. 60, 65, &c.; Golberry, i. 412, &c.) Water is very abundant, the Senegal forming the NE. boundary, and two large affluents of that river, the Fa-leme and the Barfing, constituting the W. and E. frontiers of the country. Park considers the latter to be the main stream of the Senegal (*1st Journ.*, p. 886); and it is certainly much larger than the branch which meets it at the NE. corner of Bambouk, though the direction of the latter be the same as the after course of the river. Besides these, there are a great abundance of rivulets, more especially towards the W.; and there is one other stream, the Sanon Colez, or Golden River, which is of considerable size. It rises near the capital, and, after traversing the whole country with a NW. course, is received into the Fa-leme. (Labat, iv. 20, &c.; Golberry, i. 881, 412, &c.) The climate is extremely hot, and Golberry remarks (i. 412), that the heat of the interior, which is screened from every wind except that of the desert, is quite insupportable. Towards the S., however, cool days are experienced, and the grass is fresh and verdant throughout the year. The rainy season commences about July or August, and lasts four months: during this period the low country is flooded, the whole rendered frightfully unhealthy for Europeans, and probably not very salubrious to the natives, since their labours seem to be confined to the eight dry months. (*Voy. au Pays Bambouc*, p. 87, &c.; Labat, iv. 4, &c.; Golberry, i. 411; Park, *2nd Journ.*, p. 52, &c.) But the effect of the heat, combined with this abundant moisture, is to render Bambouk one of the most

prolific countries in the world. The few sterile spots are on the summits of the highest mountains, where, denuded of soil, the bare granite refuses, of course, to nourish vegetable life, but in all other situations the vegetation is rich and varied, almost beyond example. Among trees, there are the majestic baobab, the banyan, calabash, tamarind, every species of palm, and a great variety of acacias. The vine grows wild and in great luxuriance, but its fruit, like that of all the other trees, is extremely acid, though eaten with great avidity by the natives. As in other countries N. of the Kong mountains (see *BAMBARRA*), the rich fruits of Guinea are absent; but the earth produces in great abundance, and almost without culture, maize, two sorts of millet, manioc, water melons, and nearly every species of leguminous plants. The low lands, also, subject to inundation, are covered with rice of an extremely fine kind, and which grows to the height of 8 ft. The Guinea grass is abundant, which, with a great variety of other rich pasture, serves to feed innumerable herds of cattle. (Golberry, i. 404-411; *Voy. au Pays Bambouc*, p. 31-45.) This extreme fertility is strangely contrasted with the account given by the Abbé Raynal (*E. and W. Ind.*, iii. 135), on the authority of a nameless traveller, that the soil was an irredeemable desert, producing nothing but metals, and wholly unfit for the residence of man! The traveller referred to was probably Compagnon, who, according to the author of *Voy. au Pays Bambouc*, was never in the country, but had published *les impostures les plus absurdes et les plus punissables*, by confounding soils, people, governments, and manners, the most opposed to each other. (pp. 2, 6.)

The animals of Bambouk are those of tropical Africa generally, and all in great abundance. The number of cattle has already been alluded to; the other domestic animals are horses, sheep, goats, and camels. The lion is not found upon the mountains, but is very numerous in the plains, where also wander immense herds of elephants. The rivers teem with life, and, among other inhabitants, are infested with very powerful crocodiles. Birds of all kinds are numerous, and insects as prolific as in other equinoctial regions; bees, in particular, are so plentiful, that the manufacture of mead is, next to mining and dairy work, the most common occupation of the people. This fact alone is a sufficient proof that Bambouk must abound in trees and plants of the richest kind. (Golberry, pp. 405, 408; Labat, iv. pp. 92-99; Houghton's *Af. Assoc.*, xiii. pp. 10, 14.)

But that which has rendered Bambouk a subject of interest for many generations is its reputed riches in gold and other metals. From the first settlement of Europeans on the coast of Senegambia, now five centuries ago, they heard of an interior country, the centre of all the auriferous mountains in that part of Africa; and, unlike most tales of wonder, the facts seem to have verified all that was related. So abundant indeed is the ore, and so numerous are the mines, that curiosity, even when prompted by interest, seems to have palled, and become insufficient to induce a traveller to delay his journey for the purpose of inspecting a greater number. (David's *Journ.* in Goldberry, i. p. 475.) There are four principal mining, or rather gold-producing districts; but the whole soil abounds with gold, which can be collected with very little labour and hardly any skill; it lies so near the surface, that merely scraping up and washing the earth serves, in many cases, to separate the metal in a pure state; and the more elaborate attempts at artificial operation consist in sinking a few pits, and breaking up the ore, which usually parts from its matrix in such a

state that washing only is necessary to render it fit for the market. It need scarcely be remarked, that, in such a country, the rivers literally run over golden sands; and should skilled labour be ever brought to bear upon the land, there can be little doubt but that its treasures are inexhaustible. At present, however, the art of mining, properly so called, is quite unknown to the natives. Besides gold, extensive veins of iron exist in Bambouk; and it is extremely probable that most of the other metals would be found if sought for. (Golberry, i. p. 484-480; Voy. au Pays Bam., p. 21-36; Labat, iv. p. 54-58; Park's 2nd Journ., p. 55-59.)

The population of Bambouk is dense. The people form a part of the great Mandingo family, from which they do not differ in any respect with regard to appearance, religion, or general manners. (See MANDINGO.) The government, though under a king, as head, appears to be oligarchical; the farimas, or chiefs, exercising almost unlimited authority, each in his own district, but acknowledging a general dependence (perhaps little more) upon the sovereign.

The Bamboukians are inferior in activity and industry to the other Mandingoes, and they have also corrupted their language by a large mixture of Jaloof, Foulah, and Moorish terms. Their arts are extremely few, but their wants still fewer; for though they manufacture nothing but some rude tools and ornaments, their only imports seem to be cotton cloth, ornaments for their women, and salt, of which necessary article, Bambouk, like so many other African countries, is totally destitute. For these they freely give their gold in exchange, and the commerce is one of great profit to their Arab neighbours. (Golberry, i. pp. 881, 888-418; Voy. au Pays Bam., pp. 45-68; Labat, iv. pp. 2-3, &c.)

Buried in the interior of a burning continent, and surrounded by mountains of difficult passage, Bambouk remained long totally unknown to the rest of the world. In the fifteenth century the Portuguese made themselves masters of the country, and retained it for some considerable time. All Portuguese authors are silent on the subject, but the natives affirm that they acted very tyrannically, but that becoming reduced in numbers by the unhealthy nature of the climate and their own debaucheries, the remnant were set upon and destroyed in a single day. This story is confirmed, not only from the fact of many ruinous forts and houses of Portuguese construction still existing, but from the knowledge which the Bamboukians have that such a people as the Portuguese live at a great distance; from the deep-settled hate with which they regard their name; from the terror which they feel lest their former conquerors should return to take vengeance on them; and from the large mixture of Portuguese words in their language. The expulsion of the Marabouts or Mohammedan priests from their country is another singular event in Bamboukian history.

With the exception of the Portuguese, who have left no records of their observations, the first European who reached Bambouk was an English officer named Gasche, who, ascending the Gambia, contrived to reach the Bamboukian capital in 1690. His stay was short, and his observations merely general and incidental. Compagnon's reported visit was in 1716. Soon after this, M. Brue, a director of the French African Company, formed the project of subduing Bambouk, and securing its mines of gold. To obtain the necessary information as to the practicability of his project, he attempted to enter the country from Kajaaga,

on the N.; but it does not appear that he made any great progress in the interior. His impression, however, was, that with a force of 1,200 men his plan could be carried into execution, and the mines secured to European industry. It is indeed more than probable that a less force might succeed in effecting a *first* conquest; but the fate of the Portuguese, and the extreme unhealthiness of the climate, make it also certain that their possession could be retained only by a frightful sacrifice of life, and the most unrelenting watchfulness. Between 1780 and 1744 much was done to effect a better knowledge of this country by Messrs. Levens, David, Pilay, and Legrand; the two first governors, the others employees of the French African company at Senegal. Golberry speaks, also, in high terms of an English journal published in 1782; but this work cannot now be found. Mungo Park, in his first journey outward, reached the W. and N. frontiers of Bambouk (Bondou and Kajaaga); and on his return, as also in his unfortunate second journey, he traversed a considerable part of its S. division: but the traveller from whom the most perfect information might have been obtained was Major Houghton, who not only traversed the interior of the country, but resided in it a considerable time under terms of the closest friendship with the king. The small remnants of his papers are the most valuable documents which exist respecting Bambouk.

BAMPOORA, an inl. town of Hindostan, prov. Malwah, on the Rewa river, 1,844 ft. above the level of the sea; lat. 24° 81' N., long. 75° 50' E. In 1820, it contained 4,000 houses: it possesses an unfinished fort, with well-built walls, inclosing a palace also unfinished, but containing a white marble statue of Jeswunt Row Holkar, by whose order the building was constructed. The town and its territory formerly belonged to Holkar's dominions.

BAMPTON *with Weald*, a parish and town of England, co. Oxford, hund. Bampton, 64 m. WNW. London. Area, 8,750 acres. Pop. of par., in 1861, 2,868; of which the town 865. The latter is built in a level tract of country near the Isis. Its church is an ancient and very fine structure; the living annexed to which is apportioned amongst three vicars. There is an endowed free school, founded in 1636, and a national school for 170 children. The chief trade of the town is fellmongering, which was once considerable, but of late years has greatly declined; its ancient market has also fallen into disuse, but an annual horse fair is still held, Aug. 26. Phillips, author of the *Splendid Shilling*, was a native of Bampton.

BAMPTON, a town and par. of England, co. Devon, hund. of same name, on the confines of Somersetshire. Area 8,180 acres; pop. of par. in 1831, 1,961, and in 1861, 1,971. The town is situated on the small river Bathern, an affluent of the Exe, 17 m. W. Taunton. It is built in a straggling manner; and was formerly of more importance than at present, having sent mems. to the H. of C. It has a weekly market on Saturday, and fairs for cattle and sheep, which are well attended, on Whit-Tuesday and the last Thursday of October.

BAN or BANOVICS, a town of Hungary, 16 m. SE. Trenczen, on a hill near an affluent of the Nentra; lat. 48° 48' 25" N., long. 18° 5' 55" E. Pop. 2,385 in 1858. It has a considerable trade in cattle, wood, and iron.

BANAGHER, an inl. town of Ireland, King's co., prov. Leinster, on the Shannon, 68 m. WSW. Dublin. The river is here crossed by a bridge of 19 arches, 400 ft. long and 15 wide, guarded by batteries on each side, this being considered a

military pass of some importance. Pop. of town, 1426 in 1861, and of parish, 8,018. Of the 826 families in the town, 83 were returned as employed in agriculture, 118 in trades and manufactures, and 175 in other pursuits. There were returned as belonging to the Established Church, 188 persons; the rest were Roman Catholics. The town stands on the side of a hill overlooking the Shannon, and consists of one long street of well-built houses. The church and Rom. Cath. chapel are modern. Near the town is a school of royal foundation, endowed with 370 acres of land; in the town is a national school and a dispensary. An infantry barrack stands near the bridge, and the constabulary has a station here.

The bor. was incorporated by Charles I. in 1628, and sent 2 mem. to the Irish H. of C. till the Union, when it was disfranchised. A court of petty sessions is held on alternate Mondays. It has a distillery, brewery, and some tan-yards. It is well situated, having a great command of inland navigation. Markets, well supplied with corn, are held on Fridays, and fairs on May 1, Sept. 15, which continue for four days; 28th Oct., and 8th Nov. That of Sept. is for live stock, in which it ranks next to Ballinasloe.

BANALBUFAR, a town of Spain, Majorca, 10 m. NW. Palma. Pop. about 2,000. It is situated on a mountain cultivated with the greatest care; the ground being supported on terraces, and planted with vines, olives, &c. There is in its environs a quarry of stained marble.

BANBRIDGE, an inl. town of Ireland, co. Down, prov. Ulster, on the Bann, 23 m. SW. Belfast. Pop. in 1821, 1,715; in 1831, 2,469; in 1861, 4,033, of whom 1,910 males and 2,128 females. The census returns describe 66 families as engaged in agricultural pursuits, 431 in trades and manufactures, and 355 otherwise employed or not employed. To the Established Church belonged 564 males and 631 females; to the Roman Catholic faith, 480 males and 538 females; and to the Presbyterian Church, 785 males and 858 females. The town is built on the summit and sides of a hill of some height, and so steep as materially to impede the progress of heavy-loaded carriages. To remedy this inconvenience, the centre of the road was cut down for a length of 200 yds., to the depth of 15 ft. in the middle part of the section, so as to form a carriage-way nearly level, while the great breadth of the street still admitted carriage-ways on each side on the original level, a communication being maintained between the houses on the opposite sides of the streets by a bridge or viaduct across the centre of the cut. This is a neat thriving town. A handsome church has been erected, partly by voluntary subscription; there are also places of worship for Presbyterians, Remonstrants, and two for Methodists; a public school, and a dispensary. Petty sessions are held every fortnight, and a party of the constabulary is stationed here. This town and neighbourhood is one of the principal seats of the linen manufacture. The great command of water in the vicinage adapts it peculiarly for bleaching, and there are large manufactories of union cloth and thread, and chemical works for the use of the bleachers. The markets are held on Mondays, in a spacious new building: there is also a separate market place for meal and grain, and a brown linen hall. Fairs are held on the first Monday in every month, and on 12 Jan., first Sat. in March, 9 June, 26 Aug., and 16 Nov.; the last is a great horse-fair. Branches of the Provincial and Ulster banks were opened here in 1833 and 1836. The trade of the town is promoted by lines of railway which connect it with Belfast, Dublin, and all the important

towns of Ireland. The Banbridge Junction railway, 6½ m. long, which falls into the Dublin-Belfast line, was opened in April, 1859. Its manufactures have increased with a rapidity seldom experienced. The external appearance of the place, and the habits and manners of its inhab., correspond with this progress. The wealthier classes live in respectable independence; and squalid poverty is not perceptible even among the lowest. The highly cultivated state of the surrounding country, and the calm beauties of its scenery, tend much to heighten the pleasing impressions excited by the contemplation of such a picture of prosperous industry.

BANBURY, a bor., par., and town of England, co. Oxford, hund. Banbury, 69 m. NW. London by road; 78 m. by London and North-Western, and 86 m. by Great Western railway. Pop. in 1861, of borough, 4,059, of parish, 9,140. The town is situated in a fertile vale, on the banks of the Cherwell; is remarkably clean and well built; and is paved and lighted by gas. The church, a spacious structure, was built in 1790. The Friends, Independents, Presbyterians, Wesleyans, Baptists, Unitarians, Quakers, and Roman Catholics have chapels. There is a blue-coat school, founded in 1705, and endowed with 80*l.* a year; which was incorporated with a national school in 1817. A free grammar-school, once in high repute, has been given up for many years. The market is held on Thursday; the annual fairs on Jan. 22, March 5, April 9, May 28, June 18, July 9, August 13, September 10, October 5 and 30, and December 17. The place is in a flourishing state, from its numerous fairs and large weekly markets, all very well attended, and causing an extensive retail trade, greatly increased by two lines of railway which place it in connection with London. The Oxford and Birmingham Canal passes close to the town, and gives it also a considerable carrying trade. Cheese of a superior quality is made in the neighbourhood; and the town has long been noted for a sort of cake that bears its name.

Subsequent to the Municipal Reform Act the limits of the bor. have been extended, for the purposes of local government, so as to include the whole town of Banbury, and the suburbs of Neithrop, Calthorpe, and Waterloo, which are continuations of it; the former at the NW. end; the latter on the opposite bank of the river, which flows N. and S., along the E. side of the town, with the canal running nearly parallel to it. It was originally incorporated under a charter in 1st of Mary, granted expressly for the whole parish; but the bor. came subsequently to be restricted to a part only of the town. Another charter was obtained in 6th James I.; and a third, in 4th Geo. I., which was the governing charter: under it, the corporation consisted of a mayor, twelve aldermen, six capital burgesses, and thirty assistants. It was a close, self-elective body, with no freemen, and filled up vacancies for life, either from residents or non-residents. They possessed the exclusive privilege of returning one mem. to the H. of C.; but of this they were deprived by the Reform Act, which opened the franchise to 10*l.* householders resident within the limits of the par., which contains 8,150 acres. The population of the parliamentary borough was 10,216 in 1861; registered electors 581. A court of sessions is held twice a year. There is also a court of record, which had fallen into disuse, but has recently been revived and made effective. The lighting, paving, and police are managed by commissioners, of whom the corporation form a portion. Amount assessed to property tax 40,338 in 1861. Banbury is the central town of a union of thirty-eight parishes, and has a

union workhouse. There is a chalybeate spring near the town; and on Crouch Hill, 1 m. W. of it, is a circular entrenchment, the site of an encampment of the parliamentary army in 1645, under Sir William Waller.

BANCA, an island of the E. or Indian Archipelago, first or W. division, lying off the NE. coast of Sumatra, between lat. $19^{\circ} 30'$ and $8^{\circ} 8'$ S., long. $105^{\circ} 9'$, $106^{\circ} 51'$ E.; length NW. to SE. 135 m., average breadth 35 m. Pop. 15,603 in 1861. Its most remarkable feature is its mines of tin, a mineral found in its common state of oxide, in the alluvial soil between the primary granitic mountains and a range of red ironstone, of inferior elevation, in its NW. quarter, but which is also prevalent in other parts. About 4,000 tons of tin are annually exported, mainly to China and Java. The inhabitants are principally of two races, one residing on the shores, the other in the interior, with Malays and Chinese: the latter are the workers of the mines. Previously to 1812 this island belonged to the sultan of Palembang, in Sumatra; it was then ceded to the E. I. Company; and in 1816 was transferred to the Dutch.

BANCALLAN, a town at the W. end of the island of Madura, E. archipelago; lat. $7^{\circ} 2'$ S., long. $112^{\circ} 45'$ E. It is large and populous, contains the residence of the sultan of the island, and a fort close to the palace. Its environs are pleasant, having good roads, interspersed with country seats and pleasure grounds.

BANDA, an inland town of Hindostan, prov. Allahabad, cap. of the distr. of S. Bundelcund, on the right bank of the Cane river, 80 m. W. Allahabad; lat. $25^{\circ} 50'$ N., long. $80^{\circ} 20'$ E. A few years ago it was a mere village, but has now become a considerable town; its cotton has of late years obtained a superiority over that of Jaloun in the European market.

BANDA or NUTMEG ISLANDS, a group of 12 small islands, belonging to the third or E. division of the E. Archipelago (see the art.), belonging to the Dutch; the principal, Banda Neira, lying in $4^{\circ} 30'$ S. lat., and 180° E. long., 120 m. ESE. Amboyna. Lantoir, the largest of the islands, is only 8 m. long, and 5 broad. Pop. of the whole group estimated at 110,000, most of whom are slaves. The isles are all high, and of volcanic origin; one of them, Goonung Api, contains a volcano, 2,000 ft. above the sea, which is continually emitting smoke, and sometimes flame. Climate injurious to strangers: the W. monsoon brings rain and storms in December, and earthquakes occur from October to April. The soil is chiefly a rich black mould. Four of the larger and central islands are almost entirely appropriated to the growth of nutmegs, their growth in the other islands being prohibited. The nutmeg-tree grows to the size of the pear-tree; it yields fruit from the 12th to the 20th year, and perishes at 24 years old. About two-thirds of the trees planted are barren; the produce of the rest is said to be about 10 lbs. each annually. The produce may be about 100,000 lbs. of nutmegs, and 30,000 lbs. mace. These islands are divided into a number of parks or plantations, each with a certain number of slaves. The people consist mostly of Papuan negroes, Chinese, and Dutch. Sago forms the chief vegetable food, but the cocoa also contributes a part: the seas abound with fish. The imports are various provisions for the Europeans, piece-goods, cutlery, and iron, from Batavia; sago, salted deer, &c., from Ceram; pearls, bird's nests, tortoiseshell, and slaves, for the Chinese and Dutch merchants from Aroe. The chief export is nutmegs. The seat of government is at Banda Neira, which is fortified, and has a good harbour. A Portuguese, named Antonio Abreus, discovered

these islands in 1512. In 1524 the Portuguese, in 1599 the Dutch, and in 1810 the English, successively possessed themselves of them. In 1814 they returned under the dominion of the Dutch.

BANDON, a river of Ireland, anciently called Glasheen, has its source in the Carberry mountains, 9 or 10 m. W. Bantry. From Dumanway, where its main branches unite, it flows nearly W. to Bandon; it then winds NE. to Innis-Shannon, whence it pursues a SE. course to the sea, with which it unites a little below Kinsale, built on its estuary. Its course is wholly in the co. Cork. It is described by Spencer, as

'The pleasant Bandon crown'd by many a wood.'

But most part of the timber that ornamented the country in the days of Elizabeth has been cut down, and its place is but very indifferently supplied by modern plantations.

BANDON, or BANDOBRIDGE, an inl. town of Ireland, co. Cork, prov. Munster, on the Bandon, 14 m. SW. Cork. It was founded in the beginning of the reign of James I., and having obtained a charter from that monarch, conferring several valuable privileges, it increased so rapidly in population and wealth, that, on the breaking out of the war of 1641, it maintained four companies of foot and a corps of volunteers; and was the principal garrison of the English in these parts. On Cromwell's approach, in 1649, it declared for the parl., and in the war of 1688 the inhab. expelled the troops of James II., and declared for the Prince of Orange. Pop. 6,243 in 1861, the great majority of them Roman Catholics. The town is situated on the declivities of the hills on each side the river, which blend into a richly wooded valley, and consists of three parts, distinguished by the estates on which they are built; the old town being on that of the Duke of Devonshire, the Irish town on that of the Earl of Shannon, and the western portion on those of the Earls of Bandon and Cork. It is watched, and lighted with gas, under the General Municipal Police Act. It has two parish churches, two Rom. Cath. chapels, a convent, a meeting-house for Presbyterians, and two for Methodists; a classical school, endowed by the Duke of Devonshire; a school for general instruction, on the foundation of Erasmus Smith, and several others maintained by private contributions or by religious associations. It has also an infirmary, fever hospital, and dispensary; three public libraries, and two reading-rooms. Assemblies and concerts are held in a suite of apartments attached to one of the hotels. Large barracks are built on the hill over the town, and the constabulary have here a station.

By charter, dated in 1614, the municipal government is vested in a provost, 12 burgesses, and an unlimited number of freemen, elected at the hundred court by the general body of freemen, who also elect a common council of 12 out of their own body for life. The income of the borough, in 1868, was 1,193*l.*, and the property and income-tax, for the year ended 5th April, 1868, amounted to 866*l.* The bor. sent two mem. to the Irish H. of C., and now sends one to the imperial H. of C. The franchise is vested in const. 10*l.* householders, and 8*l.* rated occupiers; registered electors 216 in 1864. General sessions of the peace for the W. riding of the co. are held here in October in the court-house, a neat building, with a well-arranged bowdrell. Petty sessions take place on Mondays, at which, through the courtesy of the corporation, the co. magistrates sit with the provost. Courts, holding pleas under 2*l.*, are held every three weeks for the manors of the Duke of Devonshire, the Earl of Bandon, and the Earl of Shannon.

The woollen manufacture was carried on here to a considerable extent, and was succeeded by that of cotton: both are nearly extinct; but a manufacture of fine stuffs has been lately undertaken. Here are several distilleries, breweries, and tanneries, and large flour-mills. The commercial and trading activity of the town has greatly increased since the opening of the Cork and Bandon Railway, which places the town in direct communication with the whole system of Irish railways. The first portion of this line, from Bandon to Ballinhassig, $9\frac{1}{2}$ miles, was opened in August, 1849, and the remainder in December, 1851. The Bandon is navigable for small craft to Collier's Quay, within 4 m. of the town, by which grain, flour, and other produce, is sent out, and timber, coal, wine, and groceries, received in return; but the domestic consumption is chiefly supplied from Cork, to which much of the agricultural produce of the neighbourhood is sent by railway. Markets are held on Wednesdays and Saturdays; and fairs on May 6, the Thursday before Easter-day, Oct. 29, and Nov. 8. A branch of the Provincial bank was opened in 1834, and the Bank of Ireland has also a branch. The town is on the mail-coach road from Cork to Bantry, but the coaches have ceased running since the opening of the railway.

BANERES, a town of Spain, in Valencia, 28 m. NNW. Alicante. Pop. 2,190 in 1857. It has filatures of wool, distilleries, and paper mills.

BANFF, a mar. co. of Scotland, having N. the Moray Frith, S. and E. the county of Aberdeen, and W. Elgin and Inverness. Its length, from Ben Macduh to Portsoy, is about 56 m., but its average breadth does not exceed 12 m. Area 686 sq. m., or 430,219 acres. Along the coast the surface is pretty level, and the soil, consisting of a sandy loam, is in many places well cultivated, and produces early and excellent crops. But, with this exception, the surface is mostly rugged and mountainous, with a few valleys interspersed. Oats is the principal crop; but the main dependence of the farmers is on their cattle, sheep being, in this county, comparatively scarce. Property in a very few hands; tillage farms mostly small; and agriculture, though in parts much improved, generally backward. There are some thriving plantations, particularly in the vicinity of Gordon Castle, the most magnificent seat in the N. of Scotland. It is partly separated from Elgin by the Spey, on which there are several productive salmon fisheries. (See SPEY.) Minerals of little importance; but the crystals and topazes, commonly called cairngorms, are found in the mountains. Manufactures inconsiderable. Banff contains 24 parishes, and had, in 1861, a population of 59,215, in 11,091 inhabited houses. It returns one member to the H. of C. for the co.; and the burghs of Banff and Cullen unite with Elgin and others in returning a member. The parl. constituency in 1864 was 1,062. The old valued rent was 6,600*l.*; the new valuation for 1864-5 was 182,885*l.*

BANFF (commonly pronounced, and sometimes written Banff), a royal burgh of Scotland, cap. of the above co., on the W. bank of the Doveron, near the entrance of that river into the Moray Frith. Pop. 6,781 in 1861, with 1,181 inhabited houses. The town may be said to consist of two parts, completely separated; of which the one is inland, and lies on a plain on the river side; the other (called the sea-town) stands on an elevation which terminates abruptly near the sea, by which it is bounded. The castle of Banff stands on a piece of table-land between these two places. The name of the town, which is found to have assumed different forms at different times—Baineffe, Boineffe, Bainfe, &c.—is supposed to have been de-

rived from the word Boyne, the name of the district in which Banff is situated. A stream named Boyne traverses the district, and the parish of Boyndie is contiguous. The privileges of a royal burgh were conferred on Banff by Robert II. in 1372, and were afterwards successively confirmed by James VI. and Charles II. The streets, though composed of houses of unequal size, are generally straight, and not deficient in width. Within the last few years, many of the older houses have been pulled down and replaced by others, so that there is scarcely a building now remaining to indicate the antiquity of the town. The streets were paved so early as 1551. The Carmelites (an order of friars, so called from Mount Carmel in Syria), or White Friars, had a convent in Banff, but at what precise period it was instituted cannot be ascertained. (Spottiswood's Religious Houses, p. 16.) Of the building no vestiges can now be traced, with the exception of some scattered arches and vaults; nor is its original extent, or exact position, known. Of the castle of Banff, alluded to above, nothing remains but the outer wall and the fosse. It was a constabulary, or lodging for the king when visiting this part of his dominions; and, in his absence, it was inhabited by the thane or constable who administered justice in his name. It was essentially royal property, and continued so till the middle of the fifteenth century, when James Stuart, Earl of Buchan, brother of James II., was created heritable thane, the castle of Banff being at the same time bestowed on him, as the official messuage of his family. Banff gave the title of peer to a branch of the family of Ogilvie, which became extinct in 1803, on the death of the eighth Lord Banff without male issue. Banff does not make a great figure in history. The Duke of Montrose plundered it in 1645, 'no merchant's goods or gear,' according to Spalding, 'being left.' The Duke of Cumberland's troops passed through the town in 1746, on their way to Culloden. They destroyed the episcopal chapel, and hanged a man, erroneously thinking him a spy. The names of two persons, eminent in very different walks of life, are connected with Banff. The famous James Sharp, who was originally a keen supporter of presbytery, and who, having betrayed that faith, rose to the archiepiscopal see of St. Andrew's, was a native of Banff, his father being sheriff-clerk of the county. He was assassinated on Magus Muir, near St. Andrews, in 1679. James Macpherson, having followed the lawless and predatory life of a gipsy, was apprehended (1700), tried, and condemned to be hanged at Banff. While he was a votary of the Muses, he was a proficient as a player on the violin; and when brought to the place of execution, he carried his instrument along with him, and played his own march, which had been composed by himself while in prison. This composition was published after his death, and has ever since been a favourite in Scotland. Burns wrote a new and improved version of the song, which is known under the name of *Macpherson's Lament*, or *Macpherson's Farewell*.

The trade of Banff is not very considerable. Its harbour, though it can boast of a low-water pier, constructed in 1816, is not so ample, so convenient, or secure, as that of Macduff, a borough of barony situated on the opposite side of the Doveron, at the distance of about a mile. The entries of shipping into the port consisted, in the year 1863, of 894 British vessels, of an aggregate burden of 23,849 tons, and 85 foreign vessels, of 5,538 tons burden. The exports consist chiefly of grain, cattle, salmon, herring, and cured pork. They are mostly sent to London, and annually amount to a considerable sum. The herring fishery on the

coast has not of late years been so productive as formerly. A Greenland whale fishery co., formed in 1819, and a thread and stocking manufactory, established fifty years ago, have been discontinued. Banff has no manufactures, except a brewery, an iron-foundry, a distillery, and a small manufactory of ropes and sails. There are four branch banking establishments, with numerous insurance offices. The annual value of real property, in 1864-5, amounted to 8,660*l*. A weekly market is held on Friday, and there are four annual fairs.

The public buildings are the town-house, built in 1798, with a spire 100 ft. high, the jail, the parish-church and the Relief, Free, Episcopal, and Independent churches. The Wesleyan Methodists have also a small chapel. Gas was introduced in 1881. A grammar-school was founded in Banff so early as the year 1544. It has, also, an academy, founded in 1786, at which all the branches of a learned and liberal education are taught; a commercial school, and a charity school founded by funds left (in 1804) by Alexander Pirie, merchant in Banff. There are several seminaries for young ladies, and an educational institution, founded by a legacy left by the late James Wilson, of the island of Grenada. Several libraries of considerable extent and value belong to different societies. Various sums have been left in mortmain for charitable purposes; and a legal assessment for the poor is unknown.

Banff unites with Elgin, Cullen, Inverury, Kintore, and Peterhead, in sending a member to the House of Commons. Macduff, which is rapidly rising to importance, chiefly owing to the excellence of its harbour, has, since the passing of the Reform Bill, been united to Banff in forming one parliamentary burgh, the joint constituency in 1864, being 281, of which the municipal 188. There is a splendid bridge of seven arches over Doveron, which connects the two towns in question. It is governed by a provost, two bailies, and nine councillors. The corporation revenue in 1863-4 was 1,110*l*.

BANG, an inl. town of Hindoستان, prov. Malwah, dom. of Scindia; at the confluence of two tributaries of the Nerbudda river, on the chief road through Gujerat and Malwah; 82 m. SW. Oozein, and 145 m. NE. Surat. Iron ore is fused here, and before the present century the town contained 2,000 houses; at present this number is much reduced. Bang is noted for some remarkable cave temples of Buddhic origin, excavated in a range of low sandstone and claystone hills, about 8½ m. S. of the town. Four caves exist; the most northerly of which is the most perfect, and is reached by a flight of seventy rudely formed stone steps, terminating in a platform overhung by the hill, which has once evidently been formed into a regular verandah supported by columns; and at either end of which there is a small apartment, containing some ill-carved figures of modern workmanship, and one of them a bad representation of the Hindoo Ganesa. The cave within this vestibule is entered by a rectangular doorway in a plastered and ornamented wall, and is a grand and gloomy apartment 84 ft. square and 14½ ft. in height; the roof, which is flat, and has been once ornamented with paintings, is supported by four ranges of massy columns. Around this apartment, on three sides, are a number of small cells, 9 ft. in depth, as well as several niches, in which have been carved, in bold relief, some draped male and female figures: from one of the cells on the left hand you enter, through narrow excavations, five other similar cells, each in a plane elevated above the former, ascending through the hill. At the farther end of the principal cave is an oblong

recess supported by two hexagonal columns, through the centre of which a small doorway leads to an inner apartment, where the *dagop*, or 'churn,' supposed to contain a Buddhic relic, is seen, cut out of the rock, with the plain dome forming its summit, reaching nearly to the roof, to which it is joined by a small square ornament. The second and fourth caves of Bang contain little worth notice; but the third is nearly as large, and has been somewhat similar in its arrangement to the first. The whole of the walls, roof, and columns have been covered with a fine stucco, and ornamented with paintings in distemper of considerable taste and elegance. It contains the *dagop* in its inner apartment; but wants the recess, and carved sculptures mentioned in the first cave. It is considerably dilapidated, and a fifth cave is so much so at its entrance as to be at present inaccessible. (Dangerfield in Bombay Trans. ii. 194-201.)

BANGALORE, an inland fortified town of Mysore, S. Hindustan; lat. 12° 57' N., long. 77° 38' E., 60 m. NE. Seringapatam. Pop. estimated at about 70,000. The town is built on a table-land, nearly 3,000 feet above the sea, and is so salubrious that Europeans often resort thither for the benefit of their health. The thermometer seldom rises above 82°, or sinks below 56° Fahr. The monsoons have their force broken by the Ghauts; but this table-land is constantly refreshed by genial showers. The vine and cyprus grow luxuriantly, and apples, peaches, and strawberries are raised in the gardens. The town is enclosed with double walls; but the chief fortress, which contained the palace of Tipppo Saib, is quite detached from the other, and is built in a solid manner, with a deep ditch and spacious glacis. The palace, though of mud, built in the Saracenic style, is still a striking building, and is used by the present rajah for public entertainments. There are good barracks, assembly and reading-rooms, European shops, &c. The houses are large, some being of two stories, built of red earth, and roofed with tiles; the chief bazaar is wide, regular, and ornamented with rows of coconut trees. Most of the inhabitants are Hindoos. Silk and cotton are the chief manufactures; the former, which is very strong, is made from raw silk imported, none being produced in the neighbourhood. Bangalore was founded by Hyder Ali, on the site of a small village; and under him it became a place of much importance. It was taken by Lord Cornwallis in 1791.

BANG-KOK, or BANKOK, a city of Siam, having been the cap. of the kingdom, the residence of the sovereign, and seat of government since the destruction of Yuthia by the Burmese in 1766. It stands on a swampy tract on both sides of the Menam, lat. 13° 40' N., long. 101° 10' E., 15 m. N. from the Gulf of Siam. Pop. estimated at from 200,000 to 300,000. The Menam is here ¼ m. wide, exclusive of the large space on each side, occupied by floating houses, and from 5 to 10 fathoms deep: there is a bar of soft mud at its mouth, but vessels of from 200 to 250 tons burden may always reach Bang-kok without difficulty. The traffic above this city is trifling, though, from the want of roads, all the intercourse is by water. Bang-kok consists of three parts; the palace, the town, and the floating town. The first, built on an island, is of an oblong shape, surrounded by a brick wall of considerable height in some parts, and furnished with some indifferent bastions and many gates; it contains, besides the residences of the king and his chief officers, many temples, gardens, inferior shops, and much waste ground. The town without stretches for some distance along the banks of the river, but a very little way

inland. The houses, most of which are of wood, or mere huts of palm leaf, are built on posts driven into the mud, being each provided with a boat. The floating town consists of a number of bamboo rafts, bearing rows of eight or ten houses, with a platform in front, on which the wares for sale are exposed; and most of the trade is thus conducted on the river, where it is believed that half the pop. reside. There are many temples, all of which are built in a pyramidal form, with much gilding and paltry decorations: each contains a colossal gilded metal statue of Buddha, and a variety of others in clay or wood. The chief temple, or *Ra-cheh-tap-pou*, which is 200 ft. in height, contains as many as 1,500 of these images. The palace possesses a really handsome audience-hall, 80 ft. long by 40 ft. broad, and 80 ft. in height, painted and gilded, and furnished with English cut-glass lustres: it is surrounded by three different walls, and is built of brick; of which, or of mud, the palaces, temples, and a few of the chief residences only are constructed. Bang-kok has manufactures of tin and iron articles, and leather for mattresses. Its trade is probably more extensive than that of any other emporium in the E. Canton excepted, not occupied by Europeans. The shipping of Bang-kok consisted, in 1860, of sixty-four vessels, of an aggregate burthen of 24,529 tons, nearly the whole of them built within the two years 1858-60. Twelve of them are royal property, the rest belong to Chinese merchants. Commercial intercourse is principally carried on with China and the Malay archipelago, but mostly with the former. The great articles of export are sugar (from 10,000 to 12,000 tons), black pepper (4,000 to 5,000 tons), stick-lac, ivory, sapan wood, and hides. The trade with China employs about 130 Chinese junks yearly, some of 1,000 tons burden. The imports are porcelain, tea, quicksilver, lac-soy, dried fruits, silks, fans, and other native manufactures from China; with camphor, edible birds' nests, and other articles for the Chinese market from the Malay archipelago: and British and Indian piece goods, opium, and British woollens, and glass from India. Half the pop. consists of Chinese; and besides them there are numerous Birman, Peguan, Laoan, Cambodian, Tavoyan, and Malay foreigners; some Christians of Portuguese descent; and a few Brahmins, who are supported by the king, and have a small temple of their own. (Crawford's Embassy to Siam; Finlayson's Mission; Report by Mr. Knox, Acting Consul at Bang-kok, 1860.)

BANGOR, a city, sea-port and par. N. Wales, co. Carnarvon, hund. Isgorvac, on the Holyhead road, at the head of Beaumaris Bay, about 2 m. from the Menai Bridge, and 238 m. N.W. London, by the London and North-Western railway. It consists chiefly of one principal street, stretching E. and W. through a romantic vale, bounded on the S. by high precipitous rocks, on the N. by a more gradual acclivity, and opening on the E. over a splendid and extensive prospect, including the rocky shores of Anglesea and the town of Beaumaris. It has been mostly rebuilt, and otherwise very much improved, within the last few years. Pop. of par. borough, 6,738 in 1861; of parish 10,662. The population, which amounted to 6,338 in 1851, is but slightly increasing. The number of inhabited houses within the borough was 1,336 in 1861, and 1,228 in 1851. The cathedral is an embattled cruciform structure, having a low massive tower crowned with pinnacles. It stands in a spacious area, with a fine avenue, and has a very pleasing effect, from its situation and the just proportion and simplicity of its architecture; near it are some old endowed almshouses for

6 poor persons, and an endowed free school for 100 boys, built in recent times on the site of an ancient friary; it was founded in Elizabeth's reign, and its revenue is upwards of 250*l.* a year. There are also 4 national schools in the parish; 2 in the town for 800 boys and girls; 1 at Vaelon for 75, and 1 at Pentir for 60. The Baptists, Independents, Calvinistic and Wesleyan Methodists have each a chapel; there is a town-hall and shambles in the centre of the town, and near it, on the London road, is the Carnarvon and Anglesea dispensary. The market is held on Fridays: during the summer on Tuesdays also. There are 4 fairs, April 5, June 25, Sept. 16, Oct. 28; besides which 4 large fairs for cattle (called 'booth fairs') are held at the Menai Bridge (which is in this parish, and about 2 m. SW. Bangor), Aug. 26, Sept. 26, Oct. 24, Nov. 14. They are the most frequented of any in N. Wales. It is accessible to vessels of 200 to 800 tons, which may enter the bay at any time of the tide: the trade, however, is comparatively insignificant, and is confined to the import of coals and other necessities. By the Reform Act, Bangor was constituted one of six contributory boroughs, which conjointly send one mem. to the H. of C.; the bailiffs of Carnarvon being returning officers. There are in Bangor about 195 houses of 10*l.* and upwards. It has been the seat of a bishopric from the remotest period. The see comprises the co. of Anglesea and Carnarvon (except four parishes), about half Merioneth, one deanery in Denbigh, and seven parishes in Montgomery: in all 179 par. The income of the bishop averages 4,000*l.* per annum. The church is used both for cathedral and parish services; the former in English, the latter in Welsh. The living is a consolidated vicarage belonging to the vicars choral, the church of the township of Pentir being annexed to it as a chapel of ease. There is an episcopal residence and a deanery. The famous controversy between Drs. Hoadley and Sherlock took its name from this see; the former being its bishop from A.D. 1715 to 1721, when, on being translated to Salisbury, the latter succeeded him. The neighbourhood is for the most part unenclosed, and everywhere presents scenery of surpassing interest, having the Snowdon range on the S., and Penmaenmaur on the E., and the Menai Strait and bridges immediately contiguous to the town. The opening of an important line of railway, and the construction of the Menai Bridge, have rendered Bangor a great thoroughfare, and made it be resorted to in summer by crowds of visitors. When Dr. Johnson visited the city in 1774, with Mr. and Mrs. Thrale, he complained that they found 'a very mean inn, and had some difficulty of obtaining lodging. I lay in a room where the other bed had two men.' But modern travellers need fear no such difficulties since the opening of the railway. The line from Bangor to Carnarvon, 74 miles long, forms part of the Chester and Holyhead railway, and was amalgamated with the 'London and North-Western' railway in March, 1859.

BANGOR, a marit. town of Ireland, co. Down, prov. Ulster, on the S. shore of Carrickfergus Bay, 12 m. ENE. Belfast. Pop. in 1821, 2,943; in 1831, 2,741; in 1861, 2,525, of whom 1,012 males and 1,518 females. The returns of 1861 showed 677 of the inhabitants belonging to the Established Church; 149 Roman Catholics, and 1,566 Presbyterians. The town took the name of Bangor, Beanchoir, or 'the White Choir,' from a celebrated monastery which, about the year 820, was destroyed by the Danes, when upwards of 900 monks are said to have been massacred. It is much frequented as a sea-bathing place. The

On the windward, or NE. side, there is a ledge of rocks, called the Cobblers, at a short distance from the shore, which renders the approach to the island dangerous in the extreme, and has doubtless contributed greatly to protect it from hostile attacks in the wars in which Great Britain has been engaged.

It is highly cultivated: scarcely an acre upon it, on which a blade of grass can grow, remains unproductive; and a better system of agriculture is pursued than that followed in the other colonies. The base of the island is calcareous, consisting of the spoils of zoophytes, of which there are several species. These are so cemented together, as in some places to form a hard compact limestone, which is quarried, and very extensively used for building; and in other places they exist as a dry soft marl, on which are found a great variety of shells, many of them in perfect preservation. Upon this formation there is a deposit of a strong stiff clay, in some places of considerable depth, which constitutes the soil of the most fertile districts. On the S. and W. sides, adjoining the sea, the soil is sandy and light; but in other places it is strong, and admirably adapted to the growth of the cane. In one district, on the NE. side, called Scotland, the scenery and soil are strangely contrasted with the flat and shelving table-land of the other parts. The scenery there is wild, irregular, and picturesque, and the soil composed of mineral substances belonging to the clay genus, particularly loam, potters' clay, and slate clay. Beds of bituminous shale are likewise frequent, and petroleum, or mineral oil, more or less abundant in this district. There are some remarkable instances of the soil in this district becoming detached from its original bed, and slipping down from a considerable elevation, carrying with it whole fields of canes to a position below; in which extraordinary migrations rows of cocoa-nut trees have accompanied the moving masses. The highest point of land in the island is Mount Hillaby, which rises 1,147 ft. above the level of Carlisle Bay.

The climate is very healthy. Except the bilious remittent fever, common to all the West India colonies, there is no malignant disease peculiar to it; and the island is free from any venomous reptile. The average quantity of rain amounts to 58 in. The range of the thermometer, on an average of five years, was,—max. 87, med. 81, min. 75. Owing to the flatness of the island, and its being open in almost every part to the sea breezes, the heat is not so oppressive as the maximum range of the thermometer would seem to indicate. The prevailing wind is the NE. trade. It begins generally about 10 o'clock A.M., and continues till sunset, but it is very feeble during the night. In Jan., Feb., Mar., April, and May, it is strong and regular, and the climate, in these months, is peculiarly agreeable. In June the rains set in, and from August to October, which is called the hurricane season, and during the month of Nov., the heat is very oppressive. The cane is the chief article of cultivation, but a considerable quantity of corn, arrowroot, cotton, ginger, and aloes is also raised, and exported.

Barbados has been frequently visited by hurricanes, of which those of Aug. 10, 1674, Oct. 10, 1780, and Aug. 11, 1831, have been the most destructive in their effects. In that of 1674, 300 houses, 8 ships, and most of the sugar-works, were destroyed, and 200 persons killed: in that of 1780 the loss in human life was reckoned between 4,000 and 5,000, and the whole amount of damage, in buildings, cattle, and stock, was estimated at upwards of a million sterling: but the fury and

violence of the last hurricane far exceeded that of either of the former: in it 2,500 persons were killed, and considerably more than that number wounded, and the loss in property amounted to two millions and a half sterling. The munificence of parliament, and the industry of the inhabitants, have, however, enabled the planters to recover from these heavy losses; and, except the absence of trees, which gives a bare and naked appearance to the country, the effects of this severe visitation can now be traced only with difficulty. The island contains, besides the principal town, a smaller town to leeward, called Speights Town, and two other towns, which are scarcely to be described as such; Oistins, or Charlestown, Saint James, or the Hometown, the spot first settled. Bridgetown with a population, in 1861, of 18,957, extends along the shore of Carlisle Bay, and, previously to the hurricane, being skirted with a belt of cocoa-nut trees, it presented a very pretty and interesting appearance to the stranger. The population of the island in 1851 amounted to 185,989, and although the cholera of 1854 carried off some 20,000 people, the census of 1861 showed a total of 162,727 inhabitants, of whom 16,594 white, and the remainder coloured and black. The barracks at St. Peter's, about 2 m. to the S. of Bridgetown are spacious and airy, having been all rebuilt since the last hurricane; they will contain comfortably 1,200 men. There is an excellent parade-ground, a brigade of guns, and a very complete establishment for warlike purposes. The government-house is about 1 m. from the town, situate on some rising ground, and commands a beautiful view of the town and bay. The market in Bridgetown is well supplied with poultry, mutton, and pork, of excellent quality, quite equal, if not superior, to the corresponding productions of England. Veal is good, but not in very great plenty. Beef is but indifferent. Many of the esculent vegetables of Europe are common. The quantity of tropical fruits grown in the island is small, but the quality excellent. The supply of fish is in general abundant. One description, the flying-fish, about the size of middling herrings, but firmer, and not so fat, are sometimes so plentiful as to be undervalued by the opulent, and within the reach of the poorest inhabitants.

The population, as in the adjoining islands, may properly be divided into four classes: Creole or native whites; European whites; Creoles of mixed blood; native blacks. Previously to the abolition of slavery, the population was estimated at 102,521; viz. whites, 12,797, coloured, 6,584, and slaves, 83,140. Formerly the cultivation of sugar was almost the only thing attended to, and the population depended, in great measure, on imported provisions. But, for years past, this system has been materially modified. Large supplies of provisions, though still far below the demand, are now raised at home, and a rotation of crops has been introduced into agriculture. Here, as everywhere else in the West Indies, the blacks are extremely desirous to acquire slips of land. Generally they are not well off; and from their large numbers supplies of labour may usually be obtained.

Barbadoes is the residence of the bishop of Barbados and the Leeward Islands, and of one of the archdeacons. The clerical establishment is fixed upon a very liberal and effective scale. In Bridgetown, besides the cathedral and parish church, there is St. Mary's Church, and in the neighbourhood three other chapels of ease, with a minister appointed to each, and paid by the British government and the Christian Knowledge Society. There are two Wesleyan chapels, and two Moravian chapels.

There are several public establishments for the education of the youth of the island:—Codrington College, Codrington Foundation School, Harrison's Free School, and the Central School; the two latter are in Bridgetown. Codrington College is situated 13 or 14 m. E. of Bridgetown, and was founded by Colonel Codrington, a native of the island, who died in 1710. The object of the founder was the education of a certain number of white youths, and the religious instruction of the blacks; for which purposes he bequeathed landed property, capable of clearing 8,000*l.* sterling a year, to the Society for Propagating the Gospel in Foreign Parts. This establishment is under the superintendence of the bishop of the diocese, who is visitor, a principal, and two tutors. It is open to all young men, for whatever profession intended, throughout the West India colonies. There are twelve theological exhibitions. The college expense to each commoner is about 30*l.* sterling per annum. The course of study embraces theology, the classics, logic, and mathematics. All candidates are required to be at least seventeen years of age at the time of admission.

At the Central School about 160 white children are educated, upon the plan of the national schools in England. All the children are fed, and the major part clothed. From this class of boys, master tradesmen, mechanics, and overseers are supplied. A girls' school has also been founded under the auspices of the ladies of Barbados.

The trade of the island has varied very much at different periods, owing to the uncertainty of the crops, occasioned by hurricanes and bad seasons. The imports amounted to 1,049,296*l.* in 1859; to 941,761*l.* in 1860; to 928,847*l.* in 1861; and to 918,141*l.* in 1862, showing a gradual decline within these four years. The exports likewise declined during the same period, falling from 1,225,571*l.* in 1859, to 1,075,374*l.* in 1861, and 1,067,612*l.* in 1862. The U. States have, next to the U. Kingdom, the greatest share of the trade of the colony. The imports from the U. Kingdom consist principally of cottons, linens, woollens, and other manufactured goods, haberdashery and millinery, hardware and cutlery, apparel, leather goods, coal, and salt. The imports from the U. States consist principally of flour, meal, Indian corn, rice, timber, and shingles. Large quantities of cod, dry and wet, are brought from the British N. American colonies. The U. Kingdom supplies about two-fifths of the imports.

The government of the island is administered by a governor, who is also gov.-gen. of the islands of Grenada, St. Vincent, Tobago, Trinidad, St. Lucia, and their respective dependencies. There is a legislative council, consisting of twelve members, and a representative assembly, constituted by a return of two members from each of the parishes—making twenty-two members. The duration of the assembly is twelve months. If there be less than seven members of council resident in the island, the governor may fill up the number to seven for the despatch of business. The governor is chancellor, but he sits in chancery with the council, who act as judges both in the court of error and in equity. There is a court of common pleas held for each district, monthly, during eight months of the year, but no court of king's bench. A general sessions of the peace is held twice a year.

The revenue of the island, previously to the abolition of slavery, was raised by a poll-tax upon slaves, and by duties on spirituous liquors and licences; but it is now derived principally from duties on imports and exports, on the tonnage of ships, on spirituous liquors, and several minor articles. The revenue for the year 1862 amounted

to 98,682*l.*, and the expenditure to 98,461*l.*; for the year 1863, the revenue was 102,572*l.*, and the expenditure 104,795*l.* Both revenue and expenditure doubled in the ten years 1853–63.

The proportion of the 20,000,000*l.* voted by parliament for the abolition of slavery paid to the colony was 1,721,845*l.* 19*s.* 7*d.* The value of the slaves was estimated at 3,897,276*l.* 19*s.*; and the average value of a slave, from 1822 to 1830, was 47*l.* 1*s.* 3*d.*

BARBANTANE, a town of France, dép. Bouches du Rhone, near the confluence of the Durance and the Rhone, 4 m. SW. Avignon. Pop. 8,050 in 1861. The railway from Lyons to Marseilles has a station here. The environs produce excellent wine.

BARBARY, the name usually given in modern times to that portion of N. Africa which comprises the various countries between the W. frontier of Egypt and the Atlantic on the one hand, and the N. frontier of the Sahara, or Great Desert, and the Mediterranean on the other; or between 25° E. and 10° W. long., and 30° to 37° N. lat. It consequently includes within its limits the empire of Morocco and Fez, with the regencies of Algiers, Tunis, and Tripoli, including Barca. Under the Roman dominion, it was divided into *Mauritania Tingitana*, corresponding to Morocco and Fez; *Mauritania Cesariensis*, to Algiers; *Africa Propria*, to Tunis; and *Cyrenaica* and the *Regia Syrtica*, to Tripoli. Its extent may be taken at from 650,000 to 700,000 sq. m.; and its population has been variously estimated at from 10,000,000 to 14,000,000.

The name Barbary has not, as has sometimes been supposed, been given to this portion of Africa because it is occupied by a barbarous and ignorant people. It is derived from the name of its ancient inhabitants, usually styled *Berbers* or *Kabyles*, and should therefore, in strictness, be called *Berbery*. The Arabs call it *Maghreb*, or the region of the W.; but though this name correctly points out its situation in relation to Arabia, it would be incorrect if used by Europeans. If a new name were now to be adopted, it might be called the *Region of Atlas*, inasmuch as it includes the whole of that great mountain chain, with its numerous ramifications. This designation has, in fact, been given to it by some geographers.

In antiquity, this part of Africa was distinguished as being the seat of Carthage—that great commercial republic, that waged a lengthened, doubtful, and desperate contest with Rome herself for the empire of the world. After the fall of Carthage, it formed an important part of the Roman empire. It had many large and flourishing cities, and was long regarded as the principal granary of Rome. After being overrun by the N. barbarians, it was subdued by the Saracens; and under their sway acquired a lustre and reputation scarcely inferior to that of the most brilliant period of its ancient history. But the Saracenic governments in Barbary, like those in other countries, gradually lost their vigour, and became a prey to every sort of disorder; and this great country ultimately sunk into the lowest state of barbarism and degradation. A handful of Turks and renegades acquired the government of its finest provinces, and subjected them to the most brutal and revolting despotism. Being unable to contend with the European powers in regular war, they had recourse to a system of piracy and marauding; which, though often partially abated, was not entirely suppressed till the conquest of Algiers by the French.

Barbary has far more of a European than of an African character. Owing to its being pervaded by the great chain of Atlas, it has every diversity

of surface, and is remarkably well watered. The climate is excellent; and it produces all the grains and fruits of S. Europe, in the greatest perfection. In ancient times its fertility was such as to be almost proverbial:

'Frumentum quantum metit Africa.'

Hor. Sat., lib. II. sat. 3.

and notwithstanding the wretched treatment to which it is now subject, the fertility of the soil continues unimpaired, and with no manure, except occasionally burning weeds and stubble, it produces the most luxuriant crops. The site of the famous gardens of the Hesperides was originally placed in Barca; but they were carried farther W. as the Greeks became better acquainted with the coast, and with the riches and capabilities of the country. (For a full account of this interesting region, the reader is referred to the articles on the different countries comprised within its limits and to those on ATLAS, CONSTANTINE, &c.)

BARBASTES, or BARBASTRO, a town of Spain, Aragon, near the Cinea, 28 m. SE. Huesca. Pop. 7,650 in 1857. It is surrounded by walls, is the seat of a bishopric, and has some tanneries.

BARBEZIEUX, a town of France, dép Charente, cap. arrond., on the road from Angoulême to Bordeaux, 21 m. SW. Angoulême. Pop. 8,878 in 1861. It is advantageously situated on the declivity of a hill, at the extremity of an extensive and fertile plain. It is well built; has a court of original jurisdiction, a linen manufacture, and some trade in wine, corn, cattle, and especially poultry. The *chapons truffés* of Barbezieux are highly esteemed.

BARBUDA, one of the W. Indian islands belonging to Great Britain, 27 m. N. Antigua, 15 m. in length by 8 m. in breadth. Total area, according to official measurement, 75 square miles. The census of 1861 showed a pop. of 713, of whom only 4 white. There were 818 males and 895 females. The island is flat and fertile. It is a proprietary of government, and belongs to the Codrington family. Corn, cotton, pepper, tobacco, are produced in abundance, but no sugar. It has no harbour, but a roadstead on its W. side.

BARBY, a town of Prussian Saxony, on the Elbe, 14 m. SE. Magdeburg. Pop. 4,697 in 1861. It is well built has an old castle, two Lutheran, and one Calvinist church, with fabrics of cloth, cotton, and flax, soap-works, breweries, and distilleries.

BARCA (*Baryn*), a district of N. Africa, forming the E. portion of Tripoli, extending from 26½° to nearly 33° N. lat., and from 19° to 25½° E. long. The limits are, however, very uncertain towards the S. and E., the country, in the former direction, terminating in the Libyan Desert, and being, in the latter, divided from Egypt by wandering tribes of Bedouins, who acknowledge no authority in any settled government. On the N. Barca is bounded by the Mediterranean Sea, and on the W. by the Gulf of Sidra (the *Syrtis Magna* of the ancients), and the government of Sert or Sort. (Beechy, 210; Pacho, 19; Beechy and Pacho's Maps.) It extends 500 m. from N. to S., but the cultivated and inhabited portion terminates at about the 31st parallel, or 140 m. only from the farthest N. point of the coast. The greatest width from E. to W. is about 390 m., and the area may be estimated at about 78,000 sq. m. (Beechy and Pacho's Maps.)

A mountain range, at a short distance inland, forms the whole extent of coast line: this range appears to have its greatest elevation near the 22nd meridian (at the town of Cyrene), and to decline thence both towards the E. and W., terminating,

in the former direction, in the plain of Lower Egypt; in the latter being continued round the gulf till it vanishes in a low swamp S. of Mesurata. The least elevation of these mountains is estimated at 400 or 500 ft., and the greatest at 1,805 ft. It is upon the sides and summits of these hills that the only population and production is found, though the great plain towards the S. is probably preserved from some of the *worst* features of the desert by a range of sand hills extending from the oasis of Ammon to that of Maradeh, which must of necessity form some protection from the effects of the sirocco. (Beechy, 107, 216, 252, 434, &c.; Pacho, 57, 83, 134, 272, &c.)

There are no rivers, but innumerable mountain torrents, and wells are also tolerably abundant, though many of them contain only salt or brackish water. On the whole, however, the *mountain* land is not very badly irrigated. Some years since, the Americans made a temporary settlement at Dema, where, taking advantage of the many flooded ravines, they built a *water-mill* of very simple construction, which, by a little skill in damming up the stream, works nearly all the year. (Pacho, 99.) The ancient sacred fountain of Cyrene is permanent (Beechy, 424.), and probably the only stream in Barca that is so, with the exception of a subterranean rivulet, near Bengazi, which is supposed by Beechy (329), on good grounds, to be the Lathon or *Lethe* of Ptolemy (iv. 4), Pliny (v. 6), and Strabo (xvii. 836), and the Erceus of Scylax. (Perip. 111.) Though stretching as far as 33° N., Barca has an equinoctial climate. The rainy season appears to commence sometimes as early as November, and at others to delay its violence till the end of December, or even till January: during such delay, however, the intermediate season is *showery*, and when the rains descend in their strength, the mountain roads become nearly, if not quite, impassable. The ravines pour down torrents, which, in their progress, carry with them earth, trees, and stones of enormous size; and convert the narrow belt of flat land between the mountains and the sea into enormous marshes. The temperature is, of course, generally high, but the powerful evaporation makes that of winter something lower than might be anticipated, and absolutely cold nights are not unknown. The wet season, as in other countries, is ushered in by storms. (Beechy, 41, 59, 247, 281, 347, &c.)

Notwithstanding the celebrity of this country in ancient times, it is only within the last forty years that any thing accurate has been learned concerning it. Its very outline was erroneously marked in every map and chart previously to 1828 (see SYRTIS); and every account of its soil, climate, and fertility was nearly the direct reverse of what experience has shown to be the truth. The ancients, with the single exception of Herodotus, have combined to represent the coasts of the Syrtis as an irredeemable desert. At least such is the impression given by Strabo, Pliny, Scylax, and others of all the country W. of Berenice (Bengazi); while the moderns, following Leo Africanus and the Arab historians, have extended the same description to all the land between Tripoli and Alexandria, till the term *Barca* became synonymous in European language with barrenness. (Strabo, xvii. 838; Pliny, v. 4, &c.; Scylax, Perip. 113, &c.; Leo Afric. v. 72, &c.) But, to say nothing of the gardens of the Hesperides, situated on this coast, it is impossible to reconcile this idea of utter barrenness with the pastoral life said by Herodotus to be led by the aborigines (Melp. 186), or with the subsequent colonisation of the country by the Greeks. Neither is it likely that Herodotus, who so accurately de-

cribes the 'vast sandy desert' in the interior (Melp. 181), should have omitted all mention of the parched and barren soil, had any such existed on the high lands near the coast. In fact, the prevalent descriptions of Barca have been, for years, little more than fables; the SW. corner, indeed (joining on the desert), seems fully to justify the accounts of utter desolation given of it; but E. and N. the country rapidly improves, and presents extensive crops of corn and large fields of excellent pasturage. The mountain sides are in most cases thickly wooded, and covered with an excellent soil; and even the sand itself (on the shore) is made, by little labour, luxuriantly productive during the rainy season. The trees consist of pines, olives, laurels, with a great variety of flowering shrubs and climbers; such as roses, laurestinas, honeysuckles, and myrtles; but the trees most in esteem here, as in every other Mohammedan country, are the various species of dates, palms, and figs, which flourish in great variety and abundance. The corn which this country produces is chiefly barley, or dhourra, and oats. Captain Beechy saw, in the neighbourhood of Bengazi, large quantities of oats, which he considered to be the spontaneous production of the soil. Their situation was, however, in open tracts among forests, apparently deserted cultivations (p. 347), and the grain was therefore, probably, the product of the last neglected crops. It is a singular, but, except in a few accidental instances like the present, a universal fact, that the bread corns are NO WHERE INDIGENOUS. The fruit—grapes, melons, pumpkins, melonrani (or egg plants), cucumbers, and tomatoes—a peculiar plant, called Bauria, is also raised, though not in great abundance; fine artichokes, and green and red pepper, are also very plentiful. But the plant for which this country is the most remarkable is the Silphium, an umbelliferous perennial resembling the hemlock or wild carrot, of which the most marvellous tales are related by the ancients. Its origin was said to be miraculous; it perished under cultivation, but thrived in the most savage and neglected deserts. A liquor produced from it was esteemed an almost universal remedy for inward ailments; and various ointments, compounded of the stalk, leaves, and root, were held to be equally efficacious in outward applications. The silphium was an object of public, almost of divine, honour; it was an offering to the deified king of the country, and its figure was stamped upon the coins of Cyrene. (Pliny, xix. 3; xxii. 22; Theophrastus, iv. 8; Arrian, Hist. Ind. xliii.; Exp. Alex. iii. 28, &c.) It does not, however, appear to differ essentially from other soporific plants of the same family. (Beechy, 409–420; Pachó, 247–255.) Thus, though not very varied, the productions of Barca are sufficiently abundant, and nothing but industry seems requisite to restore this country to the state in which Herodotus beheld it, when three successive harvests, on the coast, on the sides, and on the summits of the mountains, occupied by the Greek inhabitants eight months in every year. (Beechy, 261, 339, 347, *et pass.*; Pachó, 59, 99, 153, 235, *et pass.*; Herod. Melp. 199.)

The domestic animals, camels, horses, oxen, asses, sheep, and goats, are extremely numerous, and form the riches of the present wandering, as of the ancient settled population. The hog, forbidden by the Mohammedan law to the faithful, is found only in his savage state; but in this state he exists in great numbers, maintaining his ground against the jackals, hyenas, and other beasts of prey that infest the same locality. Insects are exceedingly numerous; and even the locust, which is a frequent visitor, is scarcely more

terrible (to strangers at least) than the myriads of flies, beetles, fleas, and other noxious vermin, which the heat of the climate and the filthy negligence of the inhabitants preserve in constant strength and activity. (Pachó, 61–64, 235–246, &c.; Beechy, 107, 211, 286, 301, *et pass.*)

The inhabitants are exclusively Bedouin Arabs, with the exception of a few Jews in the towns. The Arabs differ in nothing from their countrymen in other parts, except in being dirtier, less active, and exhibiting the worst parts of their national character in a more exaggerated form. The country is governed by a bey, subject to the pacha of Tripoli; and the population, notwithstanding the resources of the country, is thin. Its amount probably does not exceed 1,000,000. (Beechy and Pachó, *passim*.)

The original inhabitants of this district are called by Herodotus (*Melpom. pass.*) Africans (*Αἰθιοί*), a term which he seems always to distinguish carefully from Egyptians (*Αἰγυπτίαι*), but which certainly did not mean a black race of men. According to Strabo, it would appear that, even from the earliest times, they were Arabs following the wandering pastoral life, which prevails among them to the present day. (xvii. 835.) The Phœnicians appear to have traded with them at a very early period; and from their description of the country probably arose the first fanciful idea of the Hesperian Gardens, which, as already observed, were supposed to have their seat in this country. It is probable that the report of this luxuriance of the district was one inducement to the Greek settlement in Cyrene; but the immediate cause seems to have been the pressure of population in Lacedæmon, consequent to the expulsion of the descendants of the Argonauts from Lemnos by the Pelasgian population of Attica. After a troubled residence of some years, these exiles threw off a large body of emigrants, who, under the command of Battus, and by order of the Delphic oracle, established the first Greek colony in Africa of which there is any record. The pressure of population continuing in Lacedæmon, and the oracle urging the Greeks to follow their countrymen, a general propensity to emigrate was at last excited; and, about sixty years after the first adventurers had landed, a movement that might almost be called national, was made toward the African shores. The natives and the Egyptians seem to have been equally alarmed at this irruption; they combined to expel the intruders, but received so decisive a defeat that few of the Egyptians returned to their own country. In the succeeding generation the town of Barca, which subsequently gave name to the whole country, was built. This once famous city has now vanished, and even its site is a matter of dispute. For a generation or two, there were now two Greek kingdoms in Africa, that of Cyrene and that of Barca; both, however, shared the fate of their Egyptian neighbour, and, under Cambyzes, became a part of the Persian empire, and so remained, till the conquests of Alexander changed the aspect of Eastern affairs. Under his successors they formed a part of the Greco-Egyptian kingdom; but before its fall they passed into the hands of Rome. With the irruption of the northern nations, Africa fell for a while beneath the power of the Vandals; but the rapid conquests of the early Mohammedans quickly added this country to their dominions. This was the last important revolution. During the many centuries that the Greek and Roman ruled in Barca, civilisation, arts, and sciences flourished; the remains of aqueducts, temples, and other mighty works, sufficiently attest this fact; but the refinement was entirely foreign, and vanished with the exotic population

which introduced it. The Arab is again the sole possessor of the soil; and the description of the shepherd, who held it before the Greek arrived, would in every important particular apply to him at this day. The cities of this country, especially those of Berenice (*Benqazi*), Arsinoe, Barca, Apollonia, and Cyrene, which gave name to the district called Pentapolis (*Πενταπολις*), are very famous in antiquity. These towns, however, frequently changed their names, so that it is sometimes difficult to follow the ancient writers. The name Barca has, however, undergone no change, and the W. division of the country is still called Cyrenaica. The E. portion is called Marmorica, which is also an ancient denomination.

BARCELONA, a city and sea-port of Spain, on the Mediterranean, cap. prov. Catalonia, on the margin of a fruitful plain, between the rivers Besos and Llobregat, at the foot of Monjouch (*Mons Jovis*), 815 m. ENE. Madrid, 194 m. NE. Valencia, connected by railway with both these cities. Pop. 160,014, and including the suburbs 183,787, according to the census of 1857. The town is strongly fortified, being surrounded with strong walls, fosses, and batteries. The citadel to the NE. of the city is a regular octagon on the system of Vauban, with accommodation for 7,000 men. The citadel communicates with the fort of San Carlos on the sea, by a double covered way, which surrounds the city as far as Barcelonetta. The fortress of Monjouch, on the mountain of that name, is looked upon, if properly garrisoned, as impregnable; it commands the town on the SW.

The city is divided by the promenade, called La Rambla, into two nearly equal parts; that to the NW. being called the new, and that to the NE. the old city. The streets in the latter are narrower and more crooked than in the former. The houses, which are mostly of brick, are generally from four to five stories high, with numerous windows and balconies. The old Roman town may still be distinctly traced, occupying a small eminence in the centre of the city, with one of its gates and some of its towers well preserved. With the exception of the cathedral and custom-house, and the old palace of the kings of Aragon, few of the public buildings are worth any special notice. The cathedral is a noble structure, in the later Gothic style, with finely painted windows, and a choir of good workmanship and singular delicacy. With the exception of that of the Dominicans, the convents are destitute of any attractions; and the records and pictures of the heretics who had suffered in the city from 1489 to 1726, described by Mr. Townsend as existing in the latter, are no longer to be met with.

Barcelona has a royal junta of government, and is the seat of the provincial authorities. A *Junta de Comercio*, or board of trade, supports public professorships of navigation, architecture, painting, sculpture, perspective landscape, and ornamental flower-drawing, engraving, chemistry, experimental philosophy, agriculture, and botany; short-hand writing, commerce, and accounts; mechanics, and the English, French, and Italian languages. It has a large cabinet of coins, and awards pensions and rewards for superior attainments and useful inventions. It also maintains some of its students in foreign parts, to perfect themselves in their studies; and has expended large sums in drawing plans and taking levels of the ground for canals and other public works in the province. It has also four public libraries, an ecclesiastical seminary, eight colleges, a college of surgeons, and professorship of practical medicine, a college of pharmacy, academies of arts and sciences, and of *belles lettres*, a school for deaf and dumb, house of

industry (*Real Casa de Caridad*), numerous hospitals, a founding institution, and several other charities. The general hospital is a well managed institution. The population of the city has not an exclusively Spanish appearance. Spanish hats are scarcely to be seen, and the mantilla is not indispensable. The features of the females are more regular, their forms lighter, their complexions clearer, and their hair less coarse than that of the Andalusian ladies; but their eyes have less expression. The dress of the peasantry is peculiar, their red caps hanging a foot down their backs; crimson girdles, and gaudy coloured plaids, give them a highly grotesque appearance. Barcelona has some fine public walks: the *Rambla*, already referred to, is always crowded, and is hardly inferior to the Boulevards of Paris. There is also a charming walk round the ramparts, with delightful views, particularly towards the sea.

The opera here enjoys a considerable reputation; the interior of the theatre is large and handsome. There are several valuable libraries and collections of MSS.; especially the royal archives of the kingdom of Aragon, containing 20,000 loose MSS., 8,000 in folio volumes, and 900 papal bulls. The principal manufactures are those of silk, leather, lace, wool, and cotton, but none of them are very flourishing.

The trade of Barcelona has declined since the emancipation of Spanish America; but it is still far from inconsiderable. The subjoined statement, compiled from official returns, gives the number of *British* vessels which entered the port of Barcelona during the five years 1860-64, together with the amount of their tonnage, and the total value of cargoes:—

Years	Vessels	Tons	Value of Cargoes
1860	170	37,793	£382,560
1861	133	34,785	308,605
1862	150	40,392	96,720
1863	185	40,620	107,615
1864	104	27,015	83,870

The principal imports are cotton, sugar, fish, hides, cocoa, iron hoops, cinnamon, dye-woods, indigo, staves, cheese, bees' wax, coffee, horns, and specie, mostly from America, Cuba, and Porto Rico. The exports consist of wrought silks, soap, firearms, paper, hats, laces, ribands and steel. The harbour is formed by a mole running to a considerable distance in a S. direction, having a light-house and battery at its extremity. The depth of water within the mole is from 18 to 20 ft; but there is a bar outside, which has frequently not more than 10 ft. water. When in the harbour, vessels are pretty well protected; they are, however, exposed to the S. winds, and great damage was done by a dreadful storm in 1821. Large vessels are obliged to anchor outside the mole. The commercial activity of the city has greatly improved since the opening of the lines of railway which connect it with the capital and the most important towns of Spain. A railway across the Pyrenees to Perpignan completes the direct intercourse with the northern states of Europe. The line from Barcelona to Saragossa was chiefly constructed with the aid of French capital.

Barcelona is supposed to have been founded about 200 years before the Christian era, and 800 after the establishment of the Carthaginians in Spain, and to have been named after its founder, Hamilcar Barcino. After the Romans and the Goths, it was subjugated by the Arabs, in the beginning of the eighth century; and was reconquered from them by the Catalonians, aided by

Charlemagne and Ludovico Pio, in 801. It was then governed by counts, who were independent sovereigns, till the end of the twelfth century, when it was ceded, by marriage, to the crown of Aragon. Barcelona is distinguished in the history of the middle ages for the zeal, skill, and success with which her citizens prosecuted commercial undertakings. She singly rivalled the maritime towns of Italy in the commerce of the Levant; and was one of the first to establish consuls and factories in distant countries, for the protection and security of trade. She would seem also to be entitled to the honour of having compiled and promulgated the famous code of maritime law, known by the name of the *Consolato del Mare*; and the earliest authentic notices of the practice of marine insurance, and of the negotiation of bills of exchange, are to be found in her annals. She has been more celebrated as a commercial than as a manufacturing town; though in this, also, her progress has been very respectable.

Barcelona has sustained seven regular sieges since its recovery from the Arabs. During the greater part of the war of the Succession, it adhered firmly to the party of Charles; but, after a desperate resistance, it was taken, in 1714, by the forces of Philip V., commanded by the Duc de Berwick. The French got possession of it in 1808, and kept it all through the Peninsular War. In 1821 it was attacked by the yellow fever, which is said to have carried off a fifth part of the population. Thirteen councils have been held here, and above twenty-four assemblies of the Cortes, down to the last, in 1706. It has had, also, many visits from the Spanish monarchs, as they were obliged by the laws of Catalonia to appear here in person to be crowned and take the oaths as sovereigns of this principality and of Aragon: which ceremony was observed down to the time of Philip V. (Miñano, *Diccionario Geográfico*, ii. 390-396, and Suppl., art. 'Barcelona'; Report of Mr. Consul Baker on the Trade of Barcelona for 1864, in 'Consular Reports.')

BARCELONA (NEW), a town of Colombia, cap. prov., on the left bank of the Neveri, about 8 m. from the sea, and 40 m. SW. Cumana; lat. $10^{\circ} 6' 52''$ N.; long. $64^{\circ} 47'$ W. Estimated pop. 10,000; about half of whom are whites. At the beginning of the present century, it had a considerable trade with the W. India islands. It is still a place of some commerce, being well situated for the exportation of the cattle and other produce of the *llanos* to the W. India islands. Speaking generally, it is badly built; the houses being of mud and ill furnished. The streets are unpaved, which makes them filthy during the rains, while in dry weather the dust is intolerable. It is said to be one of the most unhealthy places in S. America. It was founded in 1634; previously to which, the cap. of the distr. was Cumanagoto, two leagues higher up the river.

BARCELONETA, a suburb of Barcelona, on the SE. side of the river, often considered as a separate town. It was built in 1754, on a uniform plan, under the direction of Marquis Mina: the houses are all of red brick.

BARCELONETTE, a town of France, dép. Basses Alpes, cap. arrond. on the Ubaye, 80 m. N.E. Digne. Pop. 2,426 in 1861. It is beautifully situated in a fine valley at the foot of the Alps, above 3,800 ft. above the level of the sea. It consists principally of two main streets, which intersect each other at right angles; the houses are neat and good; and, altogether, this is perhaps the handsomest town of the French Alps. It has a court of original jurisdiction, a college, a primary normal school, and an agricultural society. Above 200 silk looms have recently been established here,

and it has also some manufactures of cloth, and fulling-mills.

Barcelonette is believed to occupy the site of a Roman town. Being on the frontier of two states frequently at war, it has been repeatedly taken and retaken: but was definitively ceded to France by the treaty of Utrecht. It was the native place of Manuel, the liberal deputy, to whose memory a monument has been constructed in the principal square. It consists of a fountain, surmounted by a funeral urn, and having on one of its sides a bust of Manuel, with the inscription, taken from Beranger, 'Bras, tête et cœur, tout était peuple en lui.'

BARCELOS, or BARCELLOS, a town of Portugal, prov. Minho, on the Cavado, 28 m. N. Oporto. Pop. 5,200 in 1858. It is surrounded by walls flanked with towers: streets broad and straight, houses well built: it has a fine bridge over the river, a grammar-school, a hospital, and a workhouse. The town is very ancient.

BARDSEY, a small island of N. Wales, in the Irish Sea, near the N. point of Cardigan Bay, co. Caernarvon; lat. $52^{\circ} 45'$ N., long. $4^{\circ} 46'$ W. Length about 2 m.; breadth 1 m. The pop. in 1831 was 84, but had decreased in 1861 to 81. The island contains 370 acres, one-eighth of which is a mountain ridge, feeding a few sheep and rabbits; the rest a tolerably fertile clay soil, growing good wheat and barley. Its rental does not exceed 100*l.* a year, in three distinct holdings. It is accessible only on the SE. side, where there is a small well-sheltered harbour for vessels of thirty or forty tons. On the N. and NE. it is sheltered by the promontory of Braich-y-Pwll, $2\frac{1}{2}$ m. distant. In the channel between them is a very rapid current, rendering it unsafe, except to experienced hands. The perpendicular and projecting cliffs are a great resort of puffins and other migratory birds in the breeding season, and their eggs form a considerable trade, being gathered by men suspended from the summits of the promontory. There is a lighthouse on the island (with fixed and revolving lights), established in 1821, under the Trinity House, having the lantern elevated 141 ft. above the sea. It is said to owe its present name to its forming a refuge for the last Welsh bards. It had an ancient and celebrated abbey, the annual revenue of which, at the general suppression, was 46*l.* 1*s.* 4*d.* The site is traceable only from numerous walled graves, and a building called the Abbot's Lodge. In a ruined antique oratory, with an insulated stone altar at the E. end, the church service is read on Sundays by one of the inhab. to the rest, when the weather does not permit them to resort to the parish church of Aberdaron, on the promontory.

BAKEILY, an inh. distr. of Hindostan, prov. Delhi, mostly between 28° and 29° N. lat.; having N. the distr. of Pillibheet, E. and SE. Shahjehanpore, and W. and SW. Saiswan and Moradabad: area 6,900 sq. m.; surface generally level and well cultivated: the Ganges bounds it W., and the Ramgunga and many small streams intersect it. In summer the heat is intense, but during winter, with N. winds, the thermometer falls below 80° Fahr., and water freezes in the tents. A few years ago there were said to be 4,458,880 kucha begas of land in cultivation, assessed with a land-tax of 2,266,280 rupees, or a little more than 8 annas per bega. Most of this is realised, though the gov. not resorting to sales of land for arrears of taxation, as in the lower provinces the land-tax has always been difficult to collect, and much depends upon the decision and judgment of the collector. 8,862,022 begas are fit for culture, but not in actual tillage; and 8,568,899 begas are reported

as waste. To the N. there is much jungle, and between Bareilly city and Anopher extensive wastes prevail, consisting of lands which were formerly cultivated, but are now covered with long grass, which parches and inflames in summer, and swarms with foxes, jackals, hogs, and game. Bishop Heber says, that the soil and climate generally are very fine; in most parts date-palms and plantains are common, as well as walnut, apple, and pear-trees, vines, &c. This distr. is noted for a fine species of rice called *basmati* (pregnant with perfume), superior to the best of Patna. Husbandry, in general, is superior to that of Oude, and the articles produced of a better quality: the sugar, rice, and cotton are the highest priced in India. The roads and bridges are better than in most parts of the British provinces; and the cart commonly in use is a larger and more convenient vehicle than that of Bengal. Formerly a great deal of salt, called *kurrah salt*, was made collaterally with nitre, in this distr., and exported in large quantities. The imports from the lower prov. are chiefly chintzes, gudjoes, salt, coarse sugar, and cutlery, cottons, cheap trinkets, coral, beads, and slave-girls: articles from the hill region, and even from Thibet, were formerly imported thither on the backs of goats. The inhab. are pretty equally divided into Hindoos and Mohammedans: the tribe of Banjarees (carriers and bullock drivers), estimated at 14,000, have been all converted from the former to the latter faith. Not long since Bareilly distr. was overrun by clans of Mohammedan warriors, or rather banditti, ready to join any leader who chose to hire them, and many thousands of whom served under Holkar, Jeswant Row, &c.: they were disaffected to the British government, and for many years disturbed the country by robberies and other crimes: they have at length mostly either dispersed or settled down into more quiet lives: but Bareilly is still a distr. from which judicial appeals to the supreme courts are very frequent. There are 108 Persian and 105 Hindoo schools in this distr., entirely supported by the pupils. Hindoos and Mussulmans have no scruples as to mixing together in these establishments: reading, writing, arithmetic, and Persian constitute the principal branches of tuition. The original Sanscrit name of this territory was Kuttair, till incorporated with Rohilcund; with which it was ceded, in 1774, to the nabob of Oude: since 1801 it has been under the British presid. of Bengal.

BAREILY, a city of Hindoestan, cap. of the above district, seat of a court of circuit and appeal, head of a judicial division, and one of the six chief provincial cities in the Bengal presidency; on the banks of the united Jooah and Sunrah; lat. $28^{\circ} 23' N.$, long. $79^{\circ} 16' E.$; 42 m. NW. of the Ganges, and 700 m. W. Calcutta. Total area 2,937 sq. m.; pop. 1,378,268 in 1861. The principal street is nearly 2 m. long, and tolerably well built, but the houses are only one story high. There are several mosques, and an old fort crumbling to ruin. The British civil station and cantonments, consisting of a quadrangular citadel, surrounded by a ditch, stand S. of the town.

The chief manufactures are brazen water-pots, decorated with varnish and a remarkable imitation of gilding; other household articles; with saddlery, cutlery, carpets, embroidery, and hookahs. There are 131 Persian and Hindoo schools in Bareilly, 300 seminaries, attended by about 3,000 pupils, and an established English college with 60 students; 11 persons teach Arabic, and 2 others medicine, and in the vicinity there are 9 Hindoo and 13 Persian schools. In 1816 an alarming insurrection broke out in this city, occasioned by an

attempt to impose a police tax, which was not quelled without much difficulty and bloodshed. The lands in the vicinity are but 8 ft. above the waters of the Ramgunga, and are annually inundated.

BARENTON, a town of France, dép. La Manche, cap. cant., 7 m. SE. Morlaix. Pop. 2,918 in 1861.

BARFLEUR, a sea-port town of France, dép. La Manche, 16 m. E. Cherbourg. Pop. 1,304 in 1861. Its harbour, which was once considerable, is now choked up with sand.

BARGA, a town of Central Italy, prov. Lucca, near the Serchio, 16 m. N. Lucca. Pop. of district 7,790 in 1861. There are fine jasper quarries in its environs.

BARGA, a town of Northern Italy, prov. Coni, 28 m. SSW. Turin. Pop. 3,900 in 1861. It is situated at the foot of the Alps, near the left bank of the Grandon. It has a manufactory of arms, and a pretty active commerce. There are slate quarries in its vicinity.

BARGEMONT, a town of France, dép. Var, 7 m. NNE. Draguignan. Pop. 1,870 in 1861. It stands on a hill covered with vines and olives, and sheltered by mountains. Moreri, the author of the famous historical and biographical dictionary (*Le Grand Dictionnaire Historique*), was born here in 1643.

BARI (an. *Barium*), a sea-port and city of Southern Italy, cap. prov. of same name, on the Adriatic, 50 m. NNW. Tarentum; lat. $41^{\circ} 7' 52'' N.$, long. $16^{\circ} 53' 2'' E.$ Pop. 31,327 in 1861. The town occupies a tongue of land of a triangular form, and is defended by double walls and a citadel. The views from the rampart above the harbour are extremely fine. Streets narrow, crooked, and filthy; houses mostly mean; water brackish and bad. Principal public buildings,—cathedral, with a steeple 263 ft. high; the old priory of St. Nicholas, founded in 1087, resorted to by thousands of pilgrims; the college, founded in 1817 for the education of nobles; the lyceum, the new theatre, and the vast building of the diocesan seminary, which admits 120 scholars from four provinces, who are fed, lodged, clothed, and instructed for eight ducats a month each. It is the seat of an archbishopric, and of a civil and criminal court. Besides the cathedral it has several parish churches, and convents for both sexes, an orphan asylum, two hospitals, and a large arsenal, including within it corn magazines and a *mont de piété*. It has fabrics of cotton, cloth, silk, hats, soap, glass, &c. The *acqua stomachica*, a liquor made of herbs and spices, and used all over Naples as *chasse caffè*, is prepared here in great perfection. The port, which is encumbered with sand, only admits small vessels; but in the roads there is good anchorage in from 16 to 18 fathoms. Nearer the shore, in from 10 to 12 fathoms, the ground is foul and rocky. A railway, opened in 1865, connects the town with Trani and Ancona, and may possibly contribute to raise the fallen fortunes of the place. Bari is a very ancient city. It is referred to by Horace, *Bari mania piscos*, (Sat. i. 5.) In more modern times it fell successively into the possession of the Saracens and Normans. It has been three times nearly destroyed, and as often rebuilt on the same place.

BARILE, a town of Southern Italy, prov. Potenza, 4 m. SSE. Melfi. Pop. 4,272 in 1861. It stands on a hill, and has three churches. It was founded by a Greek colony of the Lower Empire.

BARJAC, a town of France, dép. Gard, cap. cant., 19 m. E. Alais. Pop. 2,528 in 1861.

BARJOLS, a town of France, dép. Var, cap. cant., 12 m. NNW. Brignolles. Pop. 3,435 in 1861. It has a filature of silk, with fabrics of paper and earthenware, distilleries, and tanneries.

The subterranean chapel of the *ci-devant* convent of the barefooted Carmelites has some very curious stalactites.

BARKING, a town and par. of England, co. Essex, hund. Beacontr, on the Roding, 8 m. E. London. The population, which was 3,404 in 1831, had risen to 5,076 in 1861. The whole parish had a pop. of 10,996 in 1861. The town is situated at the head of Barking Creek (as the Roding, below the town, is usually called), where it widens and receives the tide of the Thames, 2 m. above its influx into that river. The Roding contracts much immediately above the town, but has been made navigable for small craft to Ilford. The church was formerly attached to the celebrated abbey, and has many curious monuments. The living is a vicarage, with two chapels (one at Ilford, the other at Epping Forest) annexed; it is in the patronage of All Souls' Coll., Oxford. There is a free school and market house. A court is held by the lord of the manor every third week, where causes of trespass, and of debts under 40s. are tried. The inhabitants are chiefly fishermen, or engaged as bargemen and market carriers to London. The parish contains 10,170 acres, about 1,500 of which are occupied by the forest of Hainault, where is the famous Fairlop Oak, round which an annual fair is held on the first Friday in July. Another portion, called the Level, is so low that high tides are only kept out by an embankment; and it has been subject in former times to frequent inundations. The last serious one occurred in 1707, when 1,000 acres of rich land were lost, and a sandbank formed at the breach, 1 m. long, stretching half across the river. After an unsuccessful attempt by the proprietors, parliament took it up as a national concern, and a fresh embankment was made, which cost 40,000*l*. This has been since kept in repair under commissioners appointed for the purpose. The bank is from 8 to 14 ft. high, and has a pathway on its summit. Great quantities of vegetables are supplied from this parish to the London markets, being forwarded chiefly by railway. Under the Poor Law Amendment Act, the whole parish is placed in the Romford union, and has eight guardians.

The abbey was one of the richest and most ancient in the kingdom; it was founded about 677, for nuns of the Benedictine order, and several of its abbesses were canonised. In 870, it was destroyed by the Danes, and in the 10th century rebuilt and restored to its former splendour by Edgar. Subsequent to the Conquest, its government was frequently assumed by the English queens. Its abbess was one of the four who held baronial rank, and lived in great state. At the general suppression, its annual revenue was, according to Speed, 1,081*l*. 6s. 2*d*.; according to Dugdale, 862*l*. 12s. 3*d*. The abbess and thirty nuns were pensioned off. There is scarcely a trace left of the building.

BAR-LE-DUC, or **BAR-SUR-ORNAIN**, a town of France, cap. dép. Meuse, on the Ormain, 128 m. E. Paris, on the Paris-Strasbourg railway. Pop. 14,922 in 1861. It stands partly on the summit and declivity, and partly at the foot of a hill. Its castle, of which only the ruins now remain, was burnt down in 1649, and its fortifications were dismantled in 1670. The lower town, traversed by the Ormain, over which there are three stone bridges, is the best built, and is the seat of manufactures and trade. Among the public buildings are the hotel of the prefect, the town-house, college, and theatre. In one of the churches is the celebrated monument of René de Châlons, Prince of Orange, by Richier, pupil of Michael Angelo. Besides the college, the town has a nunnery, a

normal school, a society of agriculture and of arts, and a public library; it is also the seat of tribunals of original jurisdiction and commerce, and of a council of *prud'hommes*. The establishments for spinning cotton produce annually about 500,000 kilogs. yarn; and there are fabrics of cotton stuffs, handkerchiefs, hosiery, hats, and jewellery, with tanneries, works for dyeing Turkey-red. The railway, as well as the river Ormain, which is navigable from the town, furnish great facilities for forwarding timber, wine, and other articles, for the supply of Paris. Its *confitures de groseilles* are highly esteemed.

BARLETTA, a sea-port town of Southern Italy, prov. Caserta, on the Adriatic, 34 m. NW. Bari; lat. 41° 19' 26" N., long. 16° 18' 10" E. Pop. 26,379 in 1861. It is encompassed by walls, and defended by a citadel; streets wide and well paved, but slippery; houses large and lofty, built with hewn stone, which, from age, has acquired a polish little inferior to that of marble. Principal public building—the cathedral, a Gothic structure, remarkable for its high steeple, elegant exterior, and the antique granite columns in its interior: there are also several other churches and convents for both sexes; an orphan asylum; a college, founded by Ferdinand IV.; and a handsome theatre. Near the church of St. Stephen, in one of the principal streets, is a colossal bronze statue, 17 ft. 8 in. high, representing, as is supposed, the Emperor Heraclius. Barletta is the residence of a sub-intendant, and an inspector-general of the adjoining salt-works. A magnificent gateway communicates from the town to the harbour. This is formed by a mole running out from the shore with a breakwater lying before it. On the latter is a low light-house. The harbour only admits small vessels; but there is good anchorage in the roads, with off-shore winds, at from 1 to 8 m. N. by W. of the light-house, in from 8 to 13 fathoms, soft muddy bottom. It carries on a considerable trade with other ports of the Adriatic, and the Ionian Islands. Principal exports—wine, oil, salt, corn, wool, lamb and kid skins, almonds, and liquorice. Mr. Keppel Craven says that Barletta appeared to him infinitely superior to most Neapolitan towns. In winter the climate is exceedingly mild; but during part of the hot months, it is unhealthy. There are very productive salt springs about 7 m. N. from the town, managed on account of government. (Craven's Naples, p. 86.)

BARMEN. See **ELBERFELD**.

BARMOUTH, or **ABERMAW**, a town and seaport of N. Wales, co. Merioneth, hund. Edernion, par. Corwen, 55 m. W. Shrewsbury; lat. 52° 43' N., long. 4° 2' W. Pop. of registrar's district, 7,648 in 1861. The town is situated on the N. side the entrance of the Maw, in Cardigan Bay, where that river opens to an estuary (of about 1 m. in breadth at high water), which forms its harbour. The houses are built in successive ranges up the steep acclivity of a bare rocky mountain, from the base to about the summit, and are sheltered on the N. and E. by other mountains. The whole has a singularly romantic appearance. There are several churches of the established worship, and the Independents, Calvinists, and Wesleyans have chapels. Barmouth ranks high, as a favourite place of resort, among the watering towns of this coast. There are excellent hotels, with sea-water baths, billiard and assembly-rooms, and numerous respectable lodging-houses. The entrance to the harbour is partially closed by the small island of Yns-y-Brawd, or Friar's Island, and by a gravel beach, on the S. There are shifting sands, called the N. and S. bars, which make the entrance difficult; and it is accessible only to vessels of any

great burden at spring tides. In 1802 it was improved by building a small pier, on which there is a beacon. There are weekly markets on Tuesdays and Fridays, and four fairs, held on Shrove-Tuesday, Whit-Monday, Oct. 7th, Nov. 21st. Ship-building and tanning are carried on to some extent in the port. Previously to the last French war, it traded with Ireland and the Mediterranean, but the coasting trade is now the only one. It exports timber, bark, copper, lead, and manganese ores, and slates; and imports corn and flour, coals, limestone, hides, and groceries. The river is navigable for barges of 20 tons to within 2 m. of Dolgelly. There is a large turbary in the vicinity, through which a walled canal is formed, and by it and the Maw fuel is conveyed to both towns. Barmouth is a creek of the port of Aberystwith: *Abermaw* is the Welsh name, indicative of its locality: the English one was adopted at a meeting of masters of vessels, in 1768. From the harbour to where the Astro joins the sea, there is a smooth sandy beach, the view from which is magnificent. On the W. are the opposite shores of Caernarvon; on the N. high mountains protrude into the sea; above which, in the distance, Snowdon may be seen in clear weather. The line of road to Dolgelly, 10 m. E. of Barmouth, comprises, perhaps, the most magnificent scenery in Wales.

BARNARD CASTLE, a market-to. of England, co. Durham, on the Tees, 227 m. NNW. London, and 2 m. SW. Durham. Pop. 4,477 in 1861. It derives its name from its founder, Barnard, an ancestor of John Baliol, and a native of the place, who erected a strong castle, which afterwards became the property of Rich. III. when Duke of Gloucester, in right of his wife, Anne Neville. During a rebellion in the time of Elizabeth it was taken by the insurgents, after a stubborn defence. The town, situated on a steep acclivity over the Tees, consists principally of one street, nearly a mile long, well paved, and supplied with water, and of a very cheerful appearance, from the houses being built of a white freestone. St. Mary's church is an ancient structure, with a square embattled tower. The Wesleyan and Primitive Methodists and the Independents have places of worship. It has, also, a national school, formed and supported by voluntary subscriptions; an hospital for widows, founded by John Baliol; and a mechanics' institute, with a library. A jury, chosen at the court baron, of Darlington manor, which has jurisdiction for debts under 40s., together with the steward of the manor, have the government of the town. It is a station for receiving votes at elections for members for the S. division of the co. The manufacture of Scotch camlets, which was carried on to a considerable extent, has lately declined; but the manufacture of carpets, hats, and thread, for spinning which there are several mills on the river, is in a thriving state. N. of the town was Marwood, once a considerable town, and giving name to an extensive tract of country, but now to be traced only in the ruins of the church, which is converted into a barn. About 2 m. distant there is a chalybeate spring. The corn market, which is one of the largest in the N. of England, is held on Wednesdays, that for cattle on alternate Wednesdays; fairs on the Wednesdays in Easter and Whitsun weeks, and on St. Magdalen's day.

BARNAUL, a mining town of Siberia, gov. Tobolsk, circ. Tomsk, on the river Obi, near the Altai Mountains, lat. 53° 20' N., long. 88° 26' E. Pop. 11,685 in 1858. The town is the seat of a board for the administration of the mines, and large quantities of gold and silver ore are melted here. Considerable quantities of gold are obtained from the latter.

BARNET (CHIPPING), a par. and town of England, co. Hertford, hund. Cashio, 11 m. NNW. London. Pop. of parish, 2,989 in 1861. It crowns a hill on the line of the great N. road from the metropolis; and, being a considerable thoroughfare, and having a station on the Great Northern railway, has usually a bustling appearance. The church is ancient, with an embattled tower. There is also an independent chapel; a free grammar-school, founded by Elizabeth; another free school, founded 1725; and two sets of almshouses, each for six poor women. A weekly market on Monday, and fairs April 8 and September 4: the latter being one of the principal cattle fairs in the kingdom. It is the central town of a poor law union of nine parishes.

On the 14th April, 1471, the decisive battle took place between Edward IV. and the Earl of Warwick, on Gladsuir Heath, in the vicinity of this town; when the latter, at the head of the Lancastrian forces, was totally defeated and slain. An obelisk was erected in 1740, in commemoration of the event.

BARNESLEY, a market-to. of England, W. riding co. York, on the Dearne, 155 m. NW. by N. London, 84 m. SW. York, and 9 m. S. Wakefield, on the Great Northern railway. The population, which was 8,284 in 1821, and 12,310 in 1841, had risen to 17,890 in 1861. The to. (in Domesday Book called *Bernelesye*) is situated on the side of a hill. Streets generally narrow, and houses old, but latterly it has been much improved, and is paved, lighted with gas, and well supplied with water. It has two episcopal places of worship, with a Rom. Cath. and several dissenting chapels. A free grammar-school was founded in 1665, it has also national and other schools, a subscription library, and a scientific institution. A court baron is held annually, under the Duke of Leeds, lord of the manor; a court leet, for the honour of Pontefract, with jurisdiction to the amount of 5*l.*, every third Saturday; and petty sessions on Wednesday. The meetings are held in the new town-hall. This is one of the places for receiving votes at general elections for the riding. Linen is extensively manufactured, as is also steel wire for needles. There are three foundries, in which steam engines are made, and bleaching and dyeing are carried on. The place is surrounded with coal-pits, a great portion of the produce of which is sent by rail to the metropolis. Markets on Wednesday and Saturday; fairs on the last Wednesday in Feb. 13th May, and 11th Oct. A canal, connecting the Calder and Don, passes by the town.

BARNSTABLE, a sea-port town of the United States, Massachusetts, cap. co. same name, on the narrow isthmus bounding Cape Cod Bay, to the S., 63 m. SE. Boston. Pop. 5,590 in 1860. It has harbours on both sides the isthmus; that on the St. side, called Hyannas Harbour, is protected by a breakwater, formed at the expense of the general government. There are extensive salt marshes in the neighbourhood, whence large quantities of salt are obtained, and the inhabitants are largely engaged in the fishery and coasting trades. The port has about 80,000 tons of shipping, one-half of which is employed in the coasting trade and in the cod and mackerel fisheries.

BARNSTAPLE, a port of entry, bor., and town of England, co. Devon, hund. Braunton, on the E. bank of the Taw, where it is joined by the Yeo, and at the point where it begins to expand into an estuary, 172 m. W. by S. London, by road, and 288 m. by Great Western Railway. The population, which amounted to 11,371 in 1861, had fallen to 10,788 in 1861. There were 2,116 inha-

Wited houses in 1851, and 2,187 in 1861. The town is situated in a vale, sheltered on the E. by a semicircle of hills, and contains many good open streets and well-built houses; it is adequately supplied with water, and paved and lighted under a local act. The communication with the opposite side the river is kept up by means of an ancient bridge of 16 arches. Besides the estab. church (a spacious old structure with a spire), the Baptists, Independents, and Methodists have each a chapel. The guildhall is a handsome modern building, the under part of which is occupied as a market-place. There is a good theatre and billiard and assembly-rooms; a free grammar-school endowed in 1649, in which the poet Gay, a native of the vicinity, and some other distinguished individuals, have been educated; two other endowed charity-schools: in one 50 boys and 20 girls are clothed and instructed, in the other 20 girls are taught to read and knit; with national and other schools supported by subscription. There are three sets of almshouses in the town for aged poor: Paige's, founded in 1558; Litchdon's, in 1624; and Hornwood's: they provide for about 60 individuals. The N. Devon infirmary is near Barnstaple: it is an extensive establishment, supported by subscription, for the medical relief of the district. The town has a weekly market on Friday; monthly cattle-markets on the same day, which are numerously attended; two great markets on the Friday preceding April 21st, and the second Friday in December; and a large annual fair for horses, cattle, and sheep, held on the 19th Sept. and two following days. In the town are manufactories of serge, inferior broad cloths, and lace; and in the immediate vicinity, six or seven tan-yards, a paper-mill, and an iron-foundry: considerable quantities of earthenware, tiles, and bricks, are also made in the neighbourhood. The quay is only approachable by the smaller classes of vessels; and the only deep water within the bar, for vessels to ride in, is at the Pool of Appledore. This bar, which is at the outer entrance to the estuary of the Taw (7½ m. W. of Barnstaple), has, at low water springs, not above 2 ft.; at high water ditto, 27 ft.; and at high water neaps, about 14 ft. The shipping, on Jan. 1, 1864, comprised 1,061 sailing vessels, of 42,058 tons, and 210 steamers, of 17,465 tons, which entered the harbour. The clearances, in 1863, amounted to a total of 407 vessels, of 23,647 tons, inclusive of 207 steamers, of 16,568 tons. The imports of the town consist chiefly of timber and deals from Canada and the Baltic, coals and culm from Wales and Bristol, and groceries. The exports consist of the manufactured and agricultural produce of the town and district. The town is connected by railway with Exeter and other towns in the west of England. The new par. borough comprises the par. of Barnstaple, and portions of that of Pilton, on the N., and Bishop's Tawton, on the S.: it is divided into two wards, and governed by a mayor, six aldermen, and eighteen councillors. Courts of pleas, and sessions, are held quarterly, in the guildhall; and a county court is established here. Barnstaple has returned two mem. to the H. of C. since the 23rd of Edward I., the right of election being in the remaining old freemen and 104 householders. Regist. electors, 793 in 1864.

Barnstaple is of great antiquity, having been a burgh in the reign of Athelstan. It had a castle, built in the reign of William I.: at the Domesday survey there were forty burgesses within, and nine without, the borough. It furnished three ships against the Spanish armada, and, in the latter part of Elizabeth's reign, it is mentioned as a considerable depot for wool, and as trading largely

with France and Spain. It had a monastery of Cluniac monks, founded soon after the Conquest, which continued till the general suppression.

BAROACH or BROACH (*Barigasha*), a marit. British district of Hindostan, prov. Gujerat, pres. Bombay, chiefly between lat. 21° 25' and 22° 20' N., and long. 72° 50' and 73° 23' E.; having N. Kairah distr., E. Baroda, S. Surat, and W. the Gulf of Cambay: area 1,600 sq. m. Pop. estimated at 250,000. It is one of the best cultivated and most populous tracts in the W. of India; its aspect is however rendered rather unpleasant from the absence of trees, and the ill-built villages of unburnt bricks. Cotton is one of its chief products. Three-fourths of the pop. are Hindoos; the rest Mohammedans. It has formed since 1808 part of the British dominions.

BAROACH (an. *Barygaza*, water of wealth), cap. of the above district, on the N. bank of the Nerbudda, 25 m. from its mouth; lat. 21° 46' N., long. 73° 14' E. Pop. estimated at 30,000 in 1820, and at 20,000 in 1858. Town poor and mean; streets narrow and dirty; climate hot, and considered unhealthy. The Nerbudda is here two m. across, is very shallow, and abounds with carp and other fish. Baroach maintains a considerable trade in cotton, grain, and seeds, with Bombay and Surat. Two-thirds of the inhabitants are Hindoos. The Brahmins have a hospital for sick and infirm animals, supported by voluntary gifts, taxes on marriages, &c. The vicinity of Baroach is very fertile. It was taken by storm by the British in 1772.

BARODA, or BRODERA, an inland district of Hindostan, prov. Gujerat, between lat. 21° 28' and 22° 46' N., and long. 73° 12' and 74° 8' E.: area about 12,000 sq. m.; estimated pop. 140,000. Mr. Forbes observes, 'If I were to decide upon the most delightful part of that province (Gujerat), I should without hesitation prefer the pergunnahs of Brodera and Neriad.' It is fertile, generally well cultivated, and, down to 1821, was decidedly one of the most flourishing tracts in India. 'The crops in other districts,' says Mr. Forbes, 'may be equal in variety and abundance; but the number of trees which adorn the roads, the richness of the mango-trees round the villages, the size and verdure of the tamarind trees, clothe the country with uncommon beauty.' The sugar-cane, tobacco, indigo, corn, oil, pulse, opium, flax, hemp, and cotton are grown; the latter being the staple commodity. Provisions are abundant and cheap; deer, hares, partridges, quails, and water-fowl extremely cheap and plentiful. The fields are divided by high green hedges. The numerous villages look more in the European than the Indian style; and large stacks of hay are piled up and thatched; a custom which increases a resemblance to European scenery, and is not found in E. India.

More than half the inhab. are Coolies; the wilder tracts are peopled by Bheels: the remainder of the population are a race of Rajpoots, Hindoo Banyans, and a few Mohammedans around Baroda city. Agriculture is the prevailing occupation, especially of the Coolies; who, though a turbulent race, ranging themselves under different chiefs, yet, when properly restrained, are not bad tenants. They wear a petticoat, like the Bheels, round the waist, a cotton cloth round the head and shoulders, and a quilted kirtel, or lebeda, which they cover with a shirt of mail; they are armed with sword, buckler, bow and arrows, and the horsemen with a spear and battle-axe: they often undertake secret nocturnal marauding expeditions. They are but little subject to the laws; and the magistrates are obliged to oppose force to force, by maintaining large bodies of armed men in their employ. The local administration of justice, and the collection

of the revenue in Baroda are in the hands of *mambuddars*, or head-farmers, subject to the control of the prince or his ministers. Both person and property are more secure, and the cultivation in a better state, in the adjacent districts, which have been ceded to the British. Of late years the produce of this district has greatly diminished, the land lost a third part of its former value, and the revenues been considerably depressed, through the misgovernment and rapacity of the reigning prince, Syajee Row Guicowar. In 1802 the turbulence of the Arab soldiery, and the involved state of the finances, induced Anund Row to beg the assistance of the British government of Bombay. It continued under British protection, and in a comparatively flourishing state, till 1820, when Syajee ascended the throne.

BARODA, an inl. city of Hindostan, cap. of the above district, and of the Guicowar dominions, and the seat of a British resident, with a body of troops; lat. $22^{\circ} 21' N.$, long. $73^{\circ} 23' E.$; 45 m. NNW. Baroach, and 280 m. Bombay. The pop., in 1818, was estimated at 100,000. It stands in a marshy situation, on the left bank of the Viswamitra river, and is surrounded (says Tieffenthaler, who calls it a handsome city) by a double wall, the inner existing under the Mogul dynasty, the outer built by the Maharattas, when they took the city, in 1725. The walls are low, of mud, have round towers at intervals, and several double gates. It is divided into four equal parts, by two spacious streets, which, intersecting it at right angles, meet in the centre, in the market-place, which contains a square pavilion, with three arches on each side, and a flat roof, adorned with seats and fountains. This is a Mogul building, and, like some others of that kind, not devoid of beauty; but the Maharatta structures are all very poor. In the reign of Aurunzebe this was a large and wealthy city, and still enjoys a considerable trade. In its vicinity are many gardens and groves, the latter adorned with the remains of Mohammedan mosques and tombs. In the vicinity is a stone bridge over the Viswamitra, remarkable as being the only one in Gujerat; and some celebrated wells, with handsome flights of steps and balustrades in the environs; the largest of these, Soliman's well, is famed for the purity of its water, though that obtained within the city is said to be unfit for use.

BARQUESIMETO, an inl. town of Venezuela, South America, at the extremity of a table-land enclosed by still higher eminences, 92 m. WSW. Valencia, and 90 m. NE. Truxillo; lat. $9^{\circ} 55' N.$, long. $69^{\circ} 25' W.$ In 1807 it contained 15,000 persons; but it suffered severely from the terrible earthquake of 1812, which scarcely left a house entire, and buried 1,500 individuals in the ruins. The pop. of the town and its environs is now perhaps 10,000 or 12,000.

BARRA, an island of Scotland, one of the Hebrides, being the most S. of the Outer Hebrides, or group forming what is called the Long Island. Pop. 1,669 in 1861. (See *HEBRIDES*.)

BARRA, a village of Southern Italy, 3 m. from the city of Naples. Pop. 8,176 in 1861. It has many country houses belonging to inhabitants of Naples.

BARRACKPOOR, a seat of the British gov. gen. of India, and a military cantonment, in a beautiful and healthy spot, on the E. bank of the Hooghly river, 16 m. N. Calcutta. Bishop Heber observes, 'It has what is here unexampled, a park of about 250 acres of fine turf, with spreading scattered trees, of a character so European, that if I had not been on an elephant, and had not from time to time seen a great cocoa-tree towering

above all the rest, I could have fancied myself on the banks of the Thames instead of the Ganges.' The park grounds are four miles in circumference, contain an aviary and menagerie. The cantonment is a large military village, with superior bungalows for the officers.

BARRAMAHL, a subdiv. of the prov. of Salem, Hindostan, presid. of Madras. (See *SALEM*.)

BARREAH, an inl. town of Hindostan, prov. Gujerat, cap. of a small indep. principality, 75 m. ENE. Cambay; lat. $22^{\circ} 44' N.$, long. $74^{\circ} E.$ It stands near the right bank of a tributary of the Maye, and is neatly built; many houses are of brick. Its territory is wild, covered with jungle, and inhabited by only a few wandering and predatory Bheels: the revenues of the rajah are almost entirely derived from compensations from his neighbours to abstain from plundering, together with certain moderate duties on trade.

BARREGES, or BARREGES LES BAINS, a watering-place in France, dép. Hautes Pyrénées, 12 m. SSW. Bagnères-de-Bigorre. It is situated in the narrow valley of the Bastan, in the centre of the Pyrenees, about 4,200 ft. above the level of the sea. The valley is gloomy and desolate, being annually devastated by the torrent, or Gave of Bastan, which frequently threatens destruction to the town. It is frequented on account of its hot baths, the most celebrated in Europe for the cure of scrofula, gout, rheumatism, and the effect of wounds. In consequence of this latter property, Barreges is much resorted to by the military, and an hospital is provided for their use capable of accommodating 500 officers and men. The baths did not attain to celebrity till the reign of Louis XIV., when they were visited by Madame de Maintenon and the Duc de Maine. The springs, like those in the other Pyrenean déps., are under the control of government. The supply of water being sometimes insufficient for the demand, it is distributed with the strictest impartiality. The temperature of the water reaches 10° Reaumur: it has a disagreeable smell and taste. The season begins at the end of May, and ends at the beginning of October. The town is then entirely, or all but entirely, deserted. Government incurs a considerable expense in the annual repairs of the roads and baths.

BARROW, a river of Ireland, being, next to the Shannon, the most important in that island. It rises in the Sliebbloom mountains, barony of Tinnehinch, Queen's co.: its course is first NE. to Portarlinton, then E. to Monastereven, and thence nearly due S., past Athy, Carlow, Graig, and New-Ross; about 8 m. below which it falls into the estuary of Waterford harbour, of which it forms the right arm. Considering its moderate magnitude, the Barrow is navigable to a great distance; large ships ascending it as far as New-Ross, which is its port, and barges as far as Athy (above 60 m. in a direct line from the sea), where it is joined by a branch from the Grand Canal. This length of navigation has been partly effected by artificial means, that is, by removing obstructions and deepening the bed of the river: and notwithstanding it is occasionally liable to impediment, it has been of singular advantage to Kildare, Queen's co., Carlow, and Kilkenny, by giving them access not only to the important markets of New-Ross and Waterford, but also to those of Dublin.

BARROWS STRAITS, in NW. America, the SIR JAMES LANCASTER'S SOUND of Baffin, is the connecting channel between Baffin's Bay, on the E., and the Polar Sea, on the W. It lies, in a direction parallel to the equator, between the lat. of $73^{\circ} 45'$ and $74^{\circ} 40' N.$, and is considered by

Parry to terminate at Wellington Channel, in long. $91^{\circ} 47' W.$, the mouth, in Baffin's Bay being nearly on the 80th meridian. It is therefore about 200 m. in length from E. to W., and between 60 and 70 m. in average width. Both shores are broken by a great number of inlets, and that of the Prince Regent, on the S., is of very considerable extent. It was found by Ross to terminate in a great gulf, called by him Boothia. Wellington Channel is even wider at its mouth than Prince Regent's Inlet. It divides a large tract of land (North Devon), the W. continuation of Greenland, from Cornwallis Island, the first of a succession of islands terminating at Melville Island. The coasts are generally rugged, consisting of high mountains and sometimes table-lands, with bold bluff headlands, but in all cases extremely sterile. The stratification is horizontal: the composition generally limestone, but mixed with older formations, as claystone, hornblende, and granite. The water of this strait is exceedingly deep, the soundings frequently giving upwards of 200 fathoms, and very often no bottom can be found. The tide upon the shore rises about 3 or 4 ft., but of current there is very little appearance in any direction, and what there is does not seem to be uniform in its set. Perhaps the most remarkable circumstance connected with this strait is, the sluggishness of the compass in its waters. This is so great, that after advancing a short distance W., no alteration of course produces a change of more than three or four points in the direction of the needle; a fact the observation of which led first to the conclusion that the magnetic pole would be found in its neighbourhood. Whales and other natives of the northern seas are very abundant; but in this respect, and also in general productions, the strait does not differ from Baffin's Bay, which see. (Parry's First Voy., 29-52, 264-269; Purchas's Pilgrims, iii. 847.)

BARSAC, a village of France, dép. Gironde, on the Garonne, 21 m. SE. Bordeaux. Pop. 2,959 in 1861. It is famous for its white wines: they are of the same class, and sell for about the same price, as those of Saunterne. 'Ils en différent,' says Jullien (Topographie de Vignobles), 'par un peu moins de finesse, de sève, et de bouquet; mais ils sont plus spiritueux.'

BAR-SUR-AUBE, a town of France, dép. Aube, cap. arrond., on the right bank of the Aube, 28 m. E. Troyes. The pop. numbered 4,727 in 1861. A line of railway connects the town with Paris and with the eastern déps. of France. It is agreeably situated at the foot of a fountain, in a fine valley; but is generally ill laid out and ill built. It was formerly much more considerable than at present, as is evinced by the numerous remains of thick walls, and fosses not yet entirely filled up. There is a fine promenade along the river. It has a tribunal of original jurisdiction; manufactures of cotton, cotton hosiery, and serges; with nail-works, tanneries, and distilleries. The vineyards in its neighbourhood produce white and red wines in considerable estimation. An obstinate conflict took place here on the 24th May, 1814, between the French, under Mortier, and the allied forces under Prince Schwartzenberg, when the latter were repulsed.

BAR-SUR-SEINE, a town of France, dép. Aube, cap. arrond., on the Seine, 19 m. SE. Troyes. Pop. 2,770 in 1861. The town has a station on the railway from Paris to Mulhouse. It is situated in the middle of rich vineyards, at the extremity of a narrow valley; is well built and well laid out; and has some fine promenades on the banks of the Seine, which is here crossed by a handsome stone bridge. It has a court of original jurisdiction;

and has fabrics of paper, cotton, hosiery, cutlery, and tanneries. Its principal trade consists in the corn and wine of the neighbourhood.

This town was formerly fortified, and was, in consequence, repeatedly taken and retaken in the Burgundian wars. In 1596 the inhabitants destroyed the fortifications, and it has since enjoyed comparative tranquillity.

BARTEN, a town of Prussia, prov. E. Prussia, 10 m. N. Rastenburg. Pop. 1,685 in 1861. It is well built, and is defended by a fort.

BARTENSTEIN, a town of Prussia, prov. E. Prussia, on the Alle, 34 m. SE. Königsberg. Pop. 4,695 in 1861. It is the seat of a court of justice and of domains, and of an ecclesiastical inspection; has three churches, a college, an hospital, tanneries, and fabrics of cloth, linen, and pottery.

BARTFA, or **BARTFELD**, a free town of Hungary, co. Sarosch, on the Töpe, at the foot of the Carpathian Mountains; 15 m. NNE. Zeben; lat. $49^{\circ} 16' 10'' N.$, long. $21^{\circ} 18' 51'' E.$ Pop. 5,300 in 1857. It is well built, has several Catholic churches, and the Lutherans have a church and a school. It formerly enjoyed considerable distinction as a seat of learning; and in the 16th century several esteemed works proceeded from its presses. It has a valuable collection of old records, and is the residence of several noble families. It has some trade in wine, linen, and woollen yarn. In its vicinity are two chalybeate springs much resorted to, and the waters of which are carried to other parts, like those of Seltz.

BARTH, a sea-port town of Prussia, prov. Pomerania, reg. Stralsund, on the Binnen-Zee, which communicates with the Baltic, 17 m. WNW. Stralsund. Pop. 5,767 in 1861. It has a chapter for ladies, founded in 1733, and three hospitals. It carries on some trade in corn, wool, and in ship-building.

BARTHELEMY DE GRONIN (ST.), a village of France, dép. Isère, 15 m. SSW. Grenoble. Pop. 750 in 1861. Near this is the '*burning fountain*,' one of the seven wonders of the *ci-devant* Dauphiné. It is a spring issuing from a calcareous plateau, about 8 ft. long by 4 in breadth. The water, though at the temperature of the atmosphere, is always bubbling and boiling; and when it is stirred, or a burning body is approached to it, it takes fire, as it sometimes does spontaneously after summer rains. This phenomenon is supposed to be produced by the escape of hydrogen gas, generated by the decomposition of iron. The gas is easily collected, and is at first very inflammable, but speedily loses this quality. There are no volcanic phenomena in the vicinity. Of late years spontaneous combustions are said to be rarer than formerly.

BARTHOLOMEW (ST.), one of the lesser N. Caribbee islands, belonging to Sweden, 30 m. N. St. Christopher's; lat. $17^{\circ} 55' 35'' N.$, long. $62^{\circ} 50' W.$ It is of an oblong shape, its greatest length being from E. to W., and contains about 25 sq. m. Estimated pop. 10,000, of whom two-thirds are blacks. It is abundantly fertile, producing sugar, tobacco, cotton, and indigo; but it has no springs nor fresh water of any sort, except such as is supplied by the rain. Being surrounded by rocks and shoals, it is difficult of access; but its harbour, Le Carenage, on the W. side of the island, is safe and commodious. Contiguous to the harbour is the principal town, Gustavia. This island was settled by the French in 1648, and was ceded by them to the Swedes in 1784.

BARTIN, or **PARTHINE**, a town of Asiatic Turkey, Anatolia, near the mouth of the river of the same name (the an. *Parthenius*), in the Black Sea; lat. $41^{\circ} 33' 52'' N.$, long. $32^{\circ} 14' E.$ Estimated

pop. 11,500. It is surrounded by a ruinous wall, has twelve mosques, five khans, and four baths. There is deep water in the bay at the river's mouth; but there being no more than 7 ft. water over the bar, small vessels only can come up to the town: these load with timber, fruit, eggs, &c., for Constantinople. The principal import is salt.

BARTOLOMEO IN GALDO (ST.), a town of Southern Italy, prov. Foggia, 27 m. WSW. Foggia. Pop. 7,997 in 1861. It is situated on an elevated hill to the E. of the Fotre; has a collegiate and some other churches, and a diocesan seminary.

BARTON-ON HUMBER, a market-town of England, co. Lincoln, N. div. wap. of Yarborough, on the S. side of the Humber. It includes the parishes of St. Peter and St. Mary: area, 6,710 acres. Pop. 3,797 in 1861. The main body of the town is about 1 m. from the river, but a portion called 'Barton water-side,' is quite contiguous to it. Formerly it was a place of very considerable importance, and was surrounded by a rampart and fosse; but at present it is principally known by the well-frequented ferry on one of the great N. roads, leading hence across the Humber to Hull. There is a branch line of railway to New Holland, which places the town in communication with the eastern counties railway system. It has some pretty good streets and inns, and two churches, St. Peter's and St. Mary's; the former being very ancient. It has some trade in corn, and a considerable portion of the inhabitants are engaged in the making of bricks and tiles, ropes and sack-ing. The weekly market is held on Monday, and another for cattle is held once a fortnight.

BARWALDE, or **BARENWALD** (that is, 'Forest of the Bears'), a town of Prussia, prov. Brandenburg, on a lake, 82 m. N. Frankfurt, on the Oder. Pop. 4,015 in 1861. Gustavus Adolphus signed here, in 1631, a secret treaty with France.

BASELICE, a town of Southern Italy, prov. Benevento, cap. cant., 21 m. SE. Campobasso. Pop. 4,508 in 1861. The town is situated on the declivity of a mountain, has an hospital, and two *monts de piété*, established to portion and marry poor girls.

BAS-EN-BASSET, a town of France, dép. Haute Loire, cap. cant., on the Loire, 12 m. N. Issengaux. Pop. 3,189 in 1861. It has manufactures of blond lace, ribbons, and earthenware.

BASHEE ISLANDS, a cluster belonging to the E. Archipelago, 5th division (*Craeford*), lying due N. of Luzon (Philippines), between lat. 20° and 21° N. They are rocky, and five in number, with four smaller islets. Dampier visited them, and called the largest Grafton Isle; it is about 18 leagues in circuit, and has good anchorage on the W. side. It produces fine yams, sugar-cane, plantains, and vegetables, besides hogs and goats in plenty. Good water close to the beach is found in abundance. Gold in considerable quantities is washed down by the torrents in the Bashee Island, which the inhabitants work into a thick wire, and wear as an ornament: iron is the favourite medium of exchange. The natives are civil, inoffensive, and social. These islands belong to Spain; the governor resides on Grafton Island, with about 100 soldiers, some artillery, and a few priests.

BASEL, or **BASLE**, a canton in the NW. of Switzerland, the 11th in the Confederation, between 47° 25' and 47° 37' N. lat.; having N. France and the g. d. of Baden, W. France and Solothurn, S. the latter canton and Berne, and E. Argovia: shape very irregular; the greatest length is 24 m., and the greatest breadth from 13 to 17 m.: area 8 G., or 169.6 E., sq. m. The Jura chain runs through the country, its surface displaying, of course, mountains and valleys, with a level tract

in the vicinity of the city of Basel. The mountains reach an elevation of from 2,000 to 3,000 ft. above the level of the sea. The most elevated is the Hauenstein, over which there is a much-frequented excellent new road, leading from Basel to Aarau and Zurich. The Rhine flows through the N. part of the canton, separating a small district from its main body. Near the city of Basel the Birse, which rises in the canton of Berne, falls into the Rhine: it is not navigable, but teems with fish. Besides this, there are various rivulets descending from the Jura chain to the Rhine. Climate mild. Since 1831, when the country population revolted successfully against the aristocratic rule of the city, the cant. has been divided into Basel city and Basel country. Pop., cant. of Basel city, 42,251, in 1860, and of Basel country 51,773 at the same census. The territory of the former comprises, besides the city of Basel, that portion of the canton lying on the right bank of the Rhine. The valleys and the plain near the city are well cultivated, and the country produces corn enough for its consumption. There are 82,560 acres of arable land, 16,817 ditto meadows, 3,410 ditto vineyards, and 15,520 ditto of wood. Wine is made of pretty good quality, the best being that of St. Jacob, called *Schweitzerblut* (Swiss blood). Manufactures form the principal employment of the people. Ribbon making had, so early as the commencement of the 17th century, become an important business in Basel. After the revocation of the edict of Nantes, great numbers of French emigrants settled in the town, who gave a fresh impulse to the manufacture. In 1846, there were 3,550 ribbon looms, 2,950 of which were in Basel town and 600 in Basel country. In 1863, the number of looms had increased to 4,500. There were 78 great manufacturers in 1863, employing about 12,000 hands. In addition to the ribbon manufacture, silk thread, taffetas, with satins and cotton ribbons, are made on a small scale. Patterns were formerly introduced from France, but now 14 or 15 pattern-drawers are kept to provide designs for the manufacturers. The value of the exports of ribbons amounts to about 600,000*l.*, nearly half of which goes to the U. States, and the other half to Germany, France, Holland, Denmark, and Sweden. Salt-springs were discovered in 1838 in Basel country, and salt-works either have been, or are to be, established. Each of the two divisions of the canton has half a vote in the Swiss diet; and each has its independent government, consisting in both of a grand council and a petty council, the former with a president, and the latter, in Basel city, with a burgomaster, and in Basel country, with a president, at the head. About 9-10ths of the inhab. are Prot., and 1-10th Cath. Primary and secondary schools have been generally established. Previously to 1832, the only university of Switzerland was in Basel. It was founded in 1459 by Pope Pius II.; but at present it has no great reputation. The revenue of Basel town for 1863 amounted to 1,239,465 francs, or 49,578*l.*, about one-eighth of which was derived from excise duties, including tax for sale of beasts. The public debt amounts to 95,070*l.* The canton contributes 22,950 ft. to the treasury of the confederacy, and furnishes 918 men to the federal army. The communes are obliged to provide for those poor persons who have the right of citizenship; but, as charitable institutions and private subscriptions commonly suffice for this purpose, a poor-rate is seldom necessary. The inhab. of Basel city are aristocratical, and attached to their ancient laws, customs, and manners; those of Basel country, on the other hand, have democratical tendencies, and instead of being averse

from, are prone to, innovations; violent animosities have existed between the two divisions.

The country which forms the canton of Basel belonged, in the times of the Romans, to the territory of the *Rauraci*. In the middle ages it formed part of the Burgundian empire, till 1026, when it came into the possession of the German emperor Conrad II. Basel was subsequently governed by an imperial bailiff; but the bishop of Basel shared with the citizens in the government. By degrees the city acquired the same immunities as a free city of the empire. Basel assisted the Swiss in the Burgundian war, and was admitted a member of the confederacy in 1501. (Dr. Bowring's Report on the Manufactures of Switzerland; Report by Mr. Burnley, Secretary of Legation, dated June 29, 1863.)

BASEL (city of), one of the principal in Switzerland, cap. of the above canton; lat. 47° 30' 38" N., long. 7° 35' E.; 35 m. NNW. Berne; on both sides the Rhine, where its course turns N., near the French frontier. The portion on the S. side the river is called Great, and that on the N. Little Basel, the communication between them being kept up by a bridge 600 ft. long. Pop. of city 37,918 in 1860. This is the population of the city proper; that of the canton, going by the name of Basel-city, being 42,251. The city presents to the visitor a peculiar mixture of the gaiety of a French, with the sombre Gothic air of a German town: 'It looks,' says Dr. Beattie, 'like a stranger lately arrived in a new colony, who, although he may have copied the dress and manner of those with whom he has come to reside, wears still too much of his old costume to pass for a native, and too little to be received as a stranger.' It is surrounded by some unimportant fortifications, and is tolerably well built. The cathedral, built 1319, on the spot where the Roman emperor Valentinian originally erected the strong fortress called *Basilia*, contains the tombs of *Æcolampadius*, Erasmus, and the Empress Anne, consort of Rodolph of Hapsburg. The other public buildings are, the arsenal, the town-house, with some fine stained glass windows, and the hall where the Council of Basel was held. There is a university (see preceding article), a gymnasium, and numerous other public schools; a public library, with 58,000 printed vols. and many valuable MSS., medals, and paintings by Holbein; a botanic garden; museums of natural history and anatomy; literary and philanthropic societies, &c. Basel is the richest town in Switzerland; its inhabitants are industrious and well instructed. About one-fifth part of the state revenues are applied to public education. Its trade is flourishing: manufactures consist chiefly of ribbons and other silks; those of leather, paper, gloves, and stockings, are comparatively inconsiderable. Basel was a distinguished city throughout the middle ages; near it, in 1414, a few hundred Swiss made an heroic resistance to an army of 40,000 French. It was the birth-place of Holbein, Erasmus, and Bernouilli.

BASILICATA, a prov. of Southern Italy, in the former kingdom of Naples. Pop. 520,789 in 1861. In the reorganisation of the kingdom, in 1863, it was named Potenza.

BASINGSTOKE, a par., bor., and town of England, co. Hants, div. and hund. Basingstoke, 45 m. WSW. London. Area 8,970 acres. Pop. 4,268 in 1851, and 4,664 in 1861. The number of inhabited houses in 1851 was 892, and rose to 938 in 1861. It is a neat, respectable town, in the midst of a fertile, well wooded district, at the junction of five roads, one of which is the great W. line from the metropolis. The line of the London and Southampton railway also passes

close to the N. of the town, and has a station there; so that it usually wears the appearance of much bustle and activity. It is well paved and lighted, and has had many new houses added to it within the last few years. A stream, called the Town-brook, flows past it to join the Loddon, of which it is a principal branch; a canal, formed in 1796, at an expense of 180,000*l.*, extends from the town to the Wey, which river communicates with the Thames, and so completes the water-line betwixt Basingstoke and London. The church is a spacious structure of the reign of Henry VIII. The Friends, Independents, Wesleyans, and followers of Whitfield, have chapels in the town. There is a free grammar-school, in which 12 boys are educated; a blue-coat school for the same number, supported by the Skinners' Company, of London; and a national school, for 200 boys and girls; there are also almshouses for 11 poor people, and several charitable benefactions, the principal being an estate left by Sir James Lancaster, the annual proceeds of which amount to 250*l.* a year. Near the town is a tract of 108 acres, on which every householder has a right of pasture, from May to Christmas. There is a good town-hall, built in 1829; at which period the market-place was enlarged. The weekly market is held on Wednesday, and four annual fairs on Easter Tuesday, Whit Wednesday, 23rd Sept., and 10th Oct., chiefly for cattle. On the first introduction of the woollen trade into the kingdom, this town obtained a good share of it, and was for a long period noted for druggets and shallons; but at present there are no manufactures. The malting and corn trades constitute its chief business; and, being the centre of a rich agricultural district, its markets are very well attended, and its retail trade considerable. Under the Municipal Reform Act there are four aldermen and twelve councillors; and the boundaries of the borough, which were previously co-extensive with the parish, are restricted to the area on which the town stands. It was incorporated by a charter in the 20th James I., confirmed by another in 17th Charles I. Courts of petty and of quarter sessions for the bor. are held, and there is a court of pleas, which has now scarcely any business. The revenues of the corporation are derived from lands and tenements in the parish, and average above 1,000*l.* a year. Under a local assessment for paving, lighting, &c., about 850*l.* are annually collected. It is the central town of a poor law union of 87 parishes, and a polling town for the northern division of Hampshire.

The town is mentioned in Domesday as having a market. From 28 Edward I. to 4 Edward II. it sent two members to the H. of C., but thenceforth the privilege ceased to be exercised. John de Basingstoke, a distinguished scholar of the 13th century; Sir James Lancaster, the navigator; and Joseph and Thomas Warton, were born in the town.

BASQUEVILLE, a town of France, dép Seine Inférieure, on the Vienne; 10 m. SSW. Dieppe. Pop. 2,974 in 1861. It has fabrics of linen and serge.

BASRAH. See BUSSORA.

BASS, a rocky islet of Scotland, frith of Forth, about 8 m. from Tantallon castle, coast of Haddingtonshire. It is of a circular form, about 800 ft. in diameter, and nearly 400 ft. high. Some parts, not less than from 200 to 800 ft. in height, project in lofty terrific precipices over the sea. The summit resembles an obtuse cone. The continual beating of the waves has opened vast excavations all round the lower sides. The sea is of great depth on the N., E., and W., but shallow on the S.; towards which also the rock declines, and

is accessible in calm weather. It is perforated by a cavern, running NW. and SE.; it is quite dark in the centre, where there is a deep pool of water, whence it widens towards both apertures; that to the SE. being the highest. There is a spring of water near the centre, high on the rock, and grass for a few sheep kept on it. Various corallines and fuci are produced in the surrounding sea. Vast quantities of solan geese resort to the Bass in March, for the purpose of breeding, and depart in September. There was here formerly a castle, afterwards converted into a state prison, where various individuals have been confined. After the Revolution, a party of the adherents of James VII. having obtained possession of the castle, held out after the rest of the kingdom had surrendered. But their boats being at length seized or lost, and not receiving any supply of provisions, they were compelled to capitulate, when the fortifications were destroyed. This islet is a very conspicuous object, and is visible from a considerable distance.

BASS' STRAITS, the name given to the strait separating New Holland from Van Diemen's Land. It is so called from Mr. Bass, a surgeon, by whom it was explored in 1798, while on a sealing voyage from Port Jackson in an open boat. Where narrowest it is about 105 m. across, and is much encumbered with islands and coral reefs, so that its navigation requires great attention. The prevailing winds are from the W. The tide rises from 8 to 12 ft., running at from $1\frac{1}{2}$ m. to $3\frac{1}{2}$ m. an hour.

BASSAIN, a marit. town of the Birman empire, cap. of a prov., and residence of its governor; on the left bank of the Birman river (the right branch of the Irrawadi); lat. $16^{\circ} 49' N.$, long. $94^{\circ} 45' E.$; 100 m. W. Rangoon, and 360 m. SSW. Ava. Pop. estimated at 5,000. It is one of the three principal ports of the Birman empire.

BASSANO, a town of Austrian Italy, prov. Vicenza, on the left bank of the Brenta, 17 m. NNE. Vicenza, 21 m. N. by W. Padua. Pop. 13,100 in 1857. It is situated in a salubrious hilly country, suitable for the culture of the vine and the olive; is surrounded by walls, and well built of stone. It is joined to a suburb on the opposite side of the river by a fine bridge, 180 ft. in length. Some of its churches are handsome, and adorned with pictures by Giacomo da Ponti and his son, natives of the town. There are here four convents for nuns, a hospital, a *mont de piété*, and barracks. The mineralogical cabinet and botanical garden of M. Parolini deserve the traveller's attention. Bassano has manufactures of cloth, straw hats, and copper utensils, with extensive silk filatures and tanneries. But the printing establishment of Remondini is not merely the most important work in the town, but is one of the most extensive establishments of the kind in Northern Italy. It employs 50 presses and about 1,000 hands, and has attached to it paper mills and an engraving department, which has produced Volpato and other distinguished artists. The town carries on an extensive trade in silk, the produce of its territory, cloth, wood, iron, corn, wine, and cattle. A great deal of charcoal is shipped here for Venice.

BASSE'E (LA), a town of France, dép. du Nord, cap. cant., 14 m. W. Lille, on the canal of the same name. Pop. 2,985 in 1861. It has establishments for spinning cotton, combing wool, with soap-works, distilleries, and potteries. Owing to its position, it is the entrepôt of the arrondissements of Bethune and St. Pol, and has, in consequence, a considerable trade. It was formerly fortified; but Louis XIV. having taken it from the Spaniards, made the works be dismantled.

BASSEIN, a marit. town of Hindostan, prov.

Aurangabad, distr. N. Concan; separated from Salsette by a narrow channel, and about 20 m. N. Bombay; lat. $19^{\circ} 20' N.$, long. $72^{\circ} 56' E.$ It was taken possession of by the Portuguese in 1531, who fortified it with ramparts and bastions, and supplied it with no fewer than seven churches. It was captured by the Mahrattas in 1750; and it was here that the peace with the peishwa, which annihilated their federal empire, was signed Dec. 31st, 1802, since which it has belonged to the British.

BASTIA, a sea-port town of Corsica, cap. arrond., on its E. coast, within 23 m. of its NE. extremity; lat. $42^{\circ} 48' N.$, long. $9^{\circ} 26' E.$ Pop. 19,304 in 1861. This town, which was formerly the cap. of the island, is built amphitheatre-wise on a rising ground, and has a fine appearance from the sea. But on entering, it is found to be ill-built, and the streets narrow and crooked. It is defended by a citadel, and by walls and bastions; but these are of no use, except for the defence of the port, being commanded by the heights, at the foot of which the town is built. The harbour, formed by a mole, is fit only for small vessels; its entrance is narrow and difficult, and vessels are exposed to the land winds, which sometimes blow violently from the NW. There is anchorage outside the mole in 10 or 11 fathoms. It is the seat of a royal court for the island, and of tribunals of commerce and of primary jurisdiction; and has a communal college, a model school, a society of public instruction, and a theatre. It produces soap, leather, liqueurs, and wax; and exports oil, wine, goat-skins, coral, wood, and hides. It was taken by the English in 1794, but was soon after recovered by the French, in whose possession it has ever since remained. At the entrance to the port is an insulated rock, called *Il Leone*, from the striking resemblance it bears to a *lion couchant*.

BATAVIA, a sea-port and city of Java, cap. of that island: seat of the gov. of the Dutch possessions in the E., and the principal emporium of the E. Archipelago, on an extensive bay on the NW. coast of the isl.; lat. $6^{\circ} 8' S.$, long. $106^{\circ} 50' E.$ According to an enumeration made in 1861, the town had 185,000 inhabitants, of whom about 80,000 natives and 27,000 Chinese. Batavia is built in a marshy situation, at the mouth of the Jaccatra river; several of its streets being intersected by canals, crossed by numerous bridges, and their banks lined with trees in the Dutch fashion. But these canals, being receptacles for the filth of the city, contributed, together with the nature of the ground, to render it very unhealthy. In this respect, however, it has been materially improved since 1815, partly by building a new town on the heights, a little more inland, where the government functionaries and principal merchants have their residences; and partly by the demolition of useless fortifications, the filling up of some of the canals, and the cleaning of others, and the widening of several of the old streets. The older parts of the town are now, in fact, principally occupied by Chinese and natives, and though intermittent fevers are still said to be prevalent, we doubt whether it be much more unhealthy than most other places on the island. The existing fortifications consist only of a few small batteries and redoubts in and about the city. The houses, of brick and stuccoed, are spacious and neat; the ground floors in the principal houses are formed of marble flags; the chief street lies along both sides of the river, and consists of the offices and warehouses of the principal merchants, none of whom, as already stated, pass the night in Batavia. The *Stadhuis*, in which the courts of law are held, is on the S. side of the city; at the opposite quarter is the

citadel, a square fortress with a bastion at each angle, containing the residence of the gov. and some warehouses: there are three churches, and a theatre. The Jaccatra is navigable for 2 m. inland for vessels of 40 tons burden; the harbour, or rather road, which is very extensive, is protected by a range of small islands, and affords good anchorage for ships of from 300 to 500 tons, about $\frac{1}{4}$ m. from the shore. Batavia is the depôt for the produce of all the Dutch possessions in the E. archipelago; inc. spices from the Molucca islands; coffee and pepper from Celebes and Sumatra; gold-dust and diamonds from Borneo; tin from Banca; tortoise-shell, bees' wax, and dye-woods from Timor and Tumbawa. Originally no Dutch ship was suffered to proceed homeward without first touching here. Many junks from China and Siam formerly traded thither; but since the establishment of the British at Singapore, their trade with Batavia has greatly decreased. The manufactures, inc. those of leather, lime, earthenware, sugar, and arrack, are mostly in the hands of the Chinese: their *campong*, or peculiar quarter, is the chief seat of bustle and activity; and the trade of the town, except in the articles monopolised by Europeans, is wholly in their hands. Many of them are wealthy; they are governed by their own laws and magistrates. The British, according to Mr. Earl, form an important body of merchants here, and possess about 2,000 sq. m. of land on the island, much of which is cultivated with sugar: there are said to be about 200 English subjects in Batavia, including those serving in the Dutch mercantile navy. (Temminck, *Sur les Possessions Néerlandaises dans l'Inde Archipelagique*, i. 198.)

Perhaps no colony in the world, not even excepting Cuba, has made so rapid a progress as Java during the last twenty years, in the production of all the great colonial staples, but especially in those of coffee, sugar, and indigo. The trade of Batavia has, in consequence, been very greatly increased; but the recent statements of the imports and exports that we have seen refer to the island generally, and we have no means of specifying exactly how much belongs to Batavia. The total exports of Java during the year 1862 amounted to 105,923,884 florins, of which 45,529,311 florins for account of private traders, and 57,394,543 florins for the Dutch government. The imports for the same period were of the value of 63,624,569 florins, two-fifths of which for government account. The far greatest portion of this extensive commerce passes through Batavia.

Mr. Earl gives the following account of the manners and habits of the Dutch:—'The mode of life pursued by the European residents at Batavia is rather monotonous, but is easily supported by those who have great pecuniary advantages in view. Early rising is generally practised, the morning being by far the most agreeable part of the day. The time before breakfast is spent in riding or gardening, according to the taste of the individual: and after a substantial meal at eight o'clock, they repair to their town offices. At the conclusion of the business of the day, they retire to their country houses to a five o'clock dinner; and a drive round the suburbs occupies the interval between that repast and the closing in of night; when they either return home, or proceed to spend the evening at the Harmonie, an establishment formed upon the same principle as the large clubs of London, the majority of the European residents, Dutch and foreign, being members. The regulations are particularly favourable to strangers; a resident, who is not a member, cannot be admitted; but a visitor, after

being introduced by a member, may resort to it whenever he pleases during his stay at Batavia. The evenings at the Harmonie are spent in conversation, or in playing at cards and billiards, and it is perhaps the more frequented by the gentlemen from their having little intellectual amusement at home. The greater number of the Dutch females have been born on the island, and are rather deficient in point of education. They are often remarkably fair, owing to their being seldom exposed to the weather; the heat of the climate renders them extremely listless, and they soon attain that embonpoint which we are apt to associate with the idea of Dutch beauty. 'There are few public amusements. On Sunday evenings a military band performs on the Koning's Plain, which attracts the residents, who attend in carriages or on horseback; and the community is occasionally enlivened by an amateur play, or a grand ball given by one of the public functionaries. The annual races, which are always well attended, were established and are principally supported by the English. Some very good half-bred Arabs are occasionally run; but the race between the country horses, ridden by native jockeys, is by far the most amusing, and the riders jockey and are out-jockeyed in a style that would not disgrace Newmarket.' (Eastern Seas.)

Batavia was built by the Dutch, in 1619; in 1811 it was taken by Sir S. Auchmuty, and belonged to the British till 1816, when it was restored to its former possessors.

BATAVIA, a town of the U. States, New York, Genesee co., 40 m. NE. Buffalo. Pop. 5,270 in 1860. This flourishing town was laid out in 1800. It has a court-house, gaol, and other public buildings, and considerable trade in agricultural produce.

BATE ISLE, an island belonging to Hindostan, prov. Gujerat, and off its W. extremity; lat. $22^{\circ} 27' N.$, long. $69^{\circ} 19' E.$ It has a good harbour, and contains about 2,000 houses; but is chiefly noted for a celebrated temple dedicated to the god Runchor, and much frequented by pilgrims.

BATH, a city of England, NE. part co. Somerset, 102 m. W. by S. London by road, and 106 $\frac{1}{2}$ m. by Great Western railway. The city stands on the Avon, along which its buildings extend for upwards of 2 m., ascending the acclivities, and crowning some of the summits of the adjoining range of hills. Pop., in 1801, 38,150; in 1841, 52,346; and in 1851, 54,240. The pop., after this period, began slightly to decline, and the census of 1861 showed but 52,528 inhabitants. There were 7,744 inhab. houses in 1851, and 8,021 in 1861. Bath is distinguished for its architectural elegance, and the beauty and extent of its public promenades. The fineness of the freestone, of which its edifices are mostly built, and the noble scale and symmetrical arrangement of the ground plans, fully equal the taste displayed in their elevations. Amongst the most prominent places are the Circus, in which the Doric, Ionic, and Corinthian orders are combined, and from whence three spacious streets, of corresponding character, diverge; the N. and S. parades, which have noble terraces, raised on arches, and commanding extensive views; Kingston Square, and the new streets and fine esplanade formed along the river side, beneath the terraces last named; Queen Square, of the Corinthian order, with an obelisk in the centre; the Royal Crescent, with Ionic columns springing from a rustic basement, and crowned by a rich entablature; with Lansdown and Cavendish crescents; Belle Vue, Portland, and two or three other places; Paragon buildings, Belvedere and Marlborough buildings; in the level plain, extending on the NE. side, are

the fine ranges of Kensington, Grosvenor Place, and Walcot Terrace; lastly, the structures in the new town, on the river. The latter, which winds through, and adds greatly to the beauty of the city, is crossed by nine bridges, three suspension and two railway bridges; the most remarkable being Pulteney bridge, on three arches; Bathwick iron bridge; North Parade bridge, 105 ft. span, and the Old bridge. The river is navigable to Bristol, and communicates with the Thames, at Reading, by the Kennet and Avon canal.

The famous thermal springs of Bath rise in the midst of the limited plain skirted on the E. and S. by the Avon, from three distinct sources, at a small distance from each other. The waters of each are received into four extensive reservoirs, to which suitable baths are attached: that called the King's Bath is the principal, and is supplied by a spring rising about 150 ft. SW. of the abbey. The Queen's Bath, which is much smaller, adjoins this, and is supplied from the same source. The Cross Bath is supplied from a distinct spring, rising at a short distance SW. of the former; and the Hot Bath from another, 120 ft. further on, in the same direction. The grand pump-room, connected with the King's Bath, a very handsome building, erected in 1797, forms the principal centre of attraction during the fashionable season: it has an orchestra, and a fine statue of Nash. Like the King's, the Hot Bath has a pump-room, on a smaller scale, and each has a public pump connected with its spring, of which the gratuitous use is allowed during the day. Besides the public baths (which are principally used by the hospital patients and the poorer class of invalids), there are private baths, belonging to the corporation, and others, called the Abbey Baths, belonging to Earl Manvers: these are chiefly resorted to by the wealthier classes, and are amply provided with sudatories, and every accommodation. The medicinal waters of these springs, when fresh drawn, are quite transparent and destitute of colour and smell, the temperatures being—of the King's Bath, 116°; of the Cross Bath, 112°; of the Hot Bath, 117° Fahr. They contain carbonic acid and nitrogen gases, sulphate and muriate of soda, sulphate and carbonate of lime, and siliceous earth, with a minute portion of oxide of iron. Respecting both the gross amount and relative quantities of these there is much discrepancy in the numerous treatises on the subject, by which occasional variation may be inferred: the impregnation, both chalybeate and saline, is greatest in those of the King's and the Hot Bath; the water of the Cross Bath has most earthy contents. Large quantities of gas pass up with the water, in bubbles of considerable size. Taken internally, the waters act as stimulants, raising the pulse considerably, and exciting the nervous system: they are considered peculiarly efficacious in cases of gout and of biliary obstructions; as baths, they are used for various chronic and cutaneous disorders; their topical application, by forcing a stream on the diseased part (called dry pumping), is also much in request. The morning is the usual time both for drinking and bathing. The reservoirs are discharged, at regular intervals, through channels connected with the Avon.

The principal buildings devoted to religious purposes are,—the abbey church, 210 ft. long, lighted by fifty-two windows, a beautiful structure, once called, from the large size and number of its windows, the lantern of England; it was founded on the site of a more ancient church, A.D. 1495, and was completed in 1606; its tower is 162 ft. in height: St. Michael's Church, a Gothic structure, with a handsome spire, erected in 1836; St. James's Church, rebuilt in 1768; that of Walcot, a very

spacious building, with free sittings for the poor; Christ Church, a fine structure, erected by subscription in 1798; with other churches and chapels connected with the established church, and mostly raised within the last century. The Roman Catholics, Moravians, Friends, Baptists, Independents, Methodists, and Unitarians, have also places of worship. Of the establishments devoted to charitable purposes, the principal are,—Bath Hospital (completed in 1742), for the reception of sick poor from all parts of the kingdom (except the city itself), who come for the benefit of the waters; it is incorporated by a charter, and supported by donations and subscriptions: the Bath United Hospital, combining the same objects as the previous dispensary and those of a casualty infirmary; it is supported like the last. Bellott's Hospital, endowed in the reign of Jas. II., for the same purpose as the Bath Hospital, but for men only; it provides lodging and bathing for about eighteen: Black Alms, endowed by Edw. VI., for the support of ten poor persons of the place: St. John's, endowed in Hen. II.'s reign, for the support of six poor men and as many women: Partis's College (a large quadrangular range on the upper road to Bristol), for the support of thirty decayed gentlewomen, ten of whom must be widows of clergymen; each has a house, garden, and handsome annuity. The chief establishments for education and literature are,—a free grammar-school, endowed by Edw. VI.: its mastership (which carries with it the rectory of Charlcombe) is in the gift of the corporation: the Blue Coat charity school, founded A.D. 1711, for clothing, and teaching fifty boys and fifty girls reading, writing, and arithmetic; two other free schools for girls only; one for the instruction of poor children of Bath and Bath-forum; a national school; the Catholic and the Methodist free schools. The Bath and West of England Society, established in 1777 for the encouragement of agriculture, arts, manufactures, and commerce, has devoted itself chiefly to the first of these objects, and published several volumes of transactions: the Bath Literary and Philosophical Institution, established in 1820; it is a handsome Doric building (occupying the site of the Lower Assembly Rooms, which were then burnt down), and comprises a library, museum, laboratory, and lecture-room: the Public Subscription Library, established in 1800, has an extensive collection of books; and there are many circulating libraries. A mechanics' institute was established in 1828. The public buildings appropriated to business or amusement are,—the Guildhall, the seat of the quarter sessions and the courts of record and request; the two first named by the corporation, the last by commissioners appointed under an act of 45th Geo. III., for recovery of debts under 10*l*.; its jurisdiction extends over the city, and several parishes in the hundreds of Bath-forum and Wellow: this court, which sits every Wednesday, has nearly absorbed the business of the court of record. The prison is a spacious building in Bathwick, chiefly occupied by debtors, and by delinquents previously to their being fully committed. Commercial rooms were established in 1839. The market-house is an extensive range of buildings behind the Guildhall; market days Wednesdays and Saturdays. The theatre, in the Grecian style, finished in 1805, towers over the surrounding structures, in the central part of the city; the Freemasons' Lodge (built in 1817) is also conspicuous. The Subscription Club House, and the Bath and West of England Subscription Rooms, are establishments similar to the London club houses. The Upper Assembly Rooms are a superb suite of apartments, in which the subscription balls and concerts of the season are held,

under the direction of the master of the ceremonies. The city assemblies are occasionally held in the banquetting room of the Guildhall. These concerts and assemblies constitute the chief amusements of the place; besides which, however, there are two spacious riding-schools, for exercise in bad weather: when fine, Lansdown and Claverton Down are the favourite equestrian resorts. There are annual races on the former, the week subsequent to those of Ascot, and a spring meeting in April for half-bred mares. Besides the various promenades, and the Sidney Gardens previously mentioned, ten acres of the Bath common have been laid out in public walks and pleasure grounds, named the Royal Victoria Park.

Bath no longer boasts its ancient pre-eminence in the gay world as a fashionable resort. It is now surpassed by Brighton, and, perhaps, also, by Cheltenham, which attracts a large portion of the company by which it used formerly to be visited. It is still, however, much resorted to during its season. It is favourably situated for trade, the Great Western railway having a station here, on the main line to Bristol, and the Avon being navigable to Bristol on one side, and the Avon and Kennet Canal on the other. Two branches of this canal extend from Bath into the coal district SW. of the city. But business and pleasure do not often amalgamate; and the only manufacture is the coarse woollen cloth called Bath coating, and kerseymere, made in the immediate neighbourhood. There are two fairs, one held on the 14th Feb., the other July 10th, but they have lost most of their ancient consequence, which was mainly attributable to the woollen manufacture, first introduced here, under the auspices of the monks, in the reign of Edw. I., who granted the charters by which the fairs are held. Bath stands on the lias and oolite formations; in the latter (which bounds it on the NE. and a portion of the S.) the noble freestone quarries occur whence its building materials are derived; both formations also afford lime and fuller's earth, and abound in fossil remains, as well as in fine springs, which rise to within 40 or 50 ft. of the summits of the surrounding hills, and furnish an ample supply of water to every part of the city, conducted thither from various reservoirs, by pipes, the greater part of which have been laid by the corporation. Bath claims to be a borough by prescription, confirmed by charter: it is now divided into seven wards, and governed by a mayor, fourteen aldermen, and forty-two councillors, under the Municipal Reform Act. It has sent two members to the H. of C. since the reign of Edward I. The constituency is formed by 104 householders; there were 8,185 registered electors in 1864. Previously to the Reform Act, the elective franchise was exclusively vested in the mayor, aldermen, and common council, who were also self-elected. Conjointly with Wells, Bath gives name to a diocese, co-extensive (excluding Bedminster) with the co. of Somerset. The see was fixed at the latter A.D. 905, and has since been transferred, successively, to Bath and to Glastonbury, and again restored to Wells, whose dean and chapter now elect (nominally) the bishop. (Gibson's ed. Camden's Brit. pp. 186, 187; 6 & 7 W. 4, c. 77.) The bishop's revenues amount to about 5,000*l.* per annum.

The present city may almost be called a creation of the last century; for previously it was comprised in an area of about 50 acres (on the limited plain amidst which the hot springs rise), and surrounded by walls in the form of an irregular pentagon, its suburbs consisting then merely of a few detached cottages; so that the parishes now forming its most important portions had, at

the close of the 17th century, scarcely an inhabitant; whilst the three small ones within the walls (judging from the church registers) could not have contained a fourth part of their present numbers. Its rapid extension, celebrity, and former magnificence were due mainly to two individuals: one, the clever person known as Beau Nash; the other, Mr. Wood the architect. The former was elected master of the ceremonies in 1710, and thereafter ruled as *arbitrator elegantiarum* for upwards of 50 years (the most flourishing period of its fashionable annals); using the influence his peculiar talents gave him in the promotion of objects of permanent importance to the city. The other commenced his architectural labours with Queen's Square, the foundations of which were laid in 1729. This, and the streets diverging from it, as well as the N. and S. parades, he lived to finish, and also to plan and commence the Circus. All these remain as monuments of his genius, unexcelled by any subsequent achievements.

Bath was founded, and its first walls built, by the Romans, in the reign of Claudius; they named it *Aquæ Solis*, and retained the place between three and four centuries. The walls and gates (which remained till the 18th century) were built during the later Saxon period, on the Roman foundations, and partly from the ruins of their temples, arches, &c. Camden gives many inscriptions from fragments thus imbedded (Brit. pp. 188, 189); and, in Warner's History of Bath (pp. 28, 29, 82), the remains of Roman temples, baths, coins, &c., that have been discovered at various times many feet beneath the present surface, are figured and described. Hand-mills of stone, &c., relics of the British; and coffins, coins, &c., of the Saxon period, are also given by these authors. Its first charter, making it a free borough, was granted by Richard I. The manufacture called Bath beaver had attained much repute at the close of the 15th century, at which time three guilds of artificers—weavers, tailors, and shoemakers—existed, to whom Bath owed its then importance. (Leland's Itin. ii. 67.) It was first made a corporate city by a charter of 82nd of Eliz. This and the charters of 9th and 84th Geo. III., extending the limits of its jurisdiction, were the governing ones, previously to the late municipal act. The gross revenue of the corporation, in 1848, amounted to 16,957*l.*, chiefly derived from the rents and renewals of their estates, water-rents, market-dues, and profits of the baths. (Municipal Commiss. Report, 1835, App. pt. ii. p. 1109, *et seq.*) The immense thickness of its walls must have made it a stronghold in the earlier period of its history; but in later times it has never been a station of any military importance. It was fortified and held for the king at the outbreak of the civil wars; and after being taken and retaken several times, was ultimately ceded to the parliament in 1645. Christopher Anstey, author of the New Bath Guide, and John Palmer, author of the plan for conveying mails by coaches, with other distinguished persons, were natives of Bath. (Solinus, Polyhist. c. 22; Hen. of Huntingdon, lib. ii.; Gildas, cap. ult.; Leland's Coll. v. 2; Dugdale's Monas. tome i.; Maddox's Hist. Excheq. c. 13, may be referred to for the earlier history and trade of the place. The Fourth Report, pp. 869, *et seq.*; and the Eighth, pp. 567, *et seq.*, of Commiss. on Charities, contain an account of those of Bath.)

BATH, a town and port of the U. States, Maine, co. Lincoln, on the W. side of the Kennebec, about 10 m. from the sea, lat. 43° 55' N., long. 69° 49' W. Pop. 4,700 in 1860. It is pleasantly situated,

and is one of the most commercial towns in the state. The river, which is seldom frozen over, admits vessels of considerable burden. Bath is the name of several other towns, and also of several counties in the U. States.

BATHGATE, a town and par. of Scotland, co. Linlithgow. Pop. 4,827 in 1861, of whom 2,549 males and 2,278 females. The number of inhabited houses amounted to 748 in 1881, while there were 1,042 separate families. The town is situated on the middle road between Edinburgh and Glasgow, 18 m. WSW. the former, and 6 m. S. Linlithgow. It stands on the S. declivity of a ridge of hills extending across the co., and comprises an old and a new portion; the former consisting of narrow crooked lanes, on a steep declivity, and the latter of more modern and better built houses, on more level ground. The streets are well paved and lighted, and it is abundantly supplied with good water, brought from a distance. The church, a clumsy edifice, was erected in 1739, and there are three or four dissenting meeting houses. Bathgate was created a free burgh of barony in 1824. The inhab. are principally employed in the weaving of cottons for the Glasgow manufacturers, and in the adjacent coal and lime works. It has an excellent academy, liberally endowed by a native of the town, who acquired a fortune in the W. Indies, which furnishes education, of the best sort, gratis, to all natives of the par. It has six annual fairs, two of which, at Whitsuntide and Martinmas, are of very considerable importance, as cattle fairs. A weekly market is held on Wednesday. The par. is generally in a high state of cultivation.

BATHURST TOWN, a town of W. Africa, on the S. side of the mouth of the river Gambia; cap. of the British possessions on that river, and seat of a civil lieutenant-governor; lat. 13° 28' N., long. 16° 32' W. It stands on the E. end of St. Mary's Island, a fertile, but low and swampy spot, about 4 m. in length, and 3 m. in breadth. Pop. (of the town and island) 6,939, of whom 191 only are Europeans; the rest being liberated Africans, Mandingoes, Jolofs, &c. Of the 191 white inhabitants, there are 177 males and 14 females; the coloured population comprises 3,808 males and 2,940 females. The main street facing the river is occupied with European warehouses and private dwellings; the other streets are laid out in straight lines, but unpaved, and are lined mostly with African huts, inclosed within small gardens. The Government-house, like the other European buildings, consists of one floor, raised upon brick pillars, furnished with verandahs, and approached by a long flight of steps. There is a spacious hospital for liberated Africans near the town; there are three Wesleyan chapels and a missionary school. Most of the European settlers are merchants, trading chiefly in gum Senegal, bees' wax, hides, ivory and gold; the other principal exports are tortoise-shell, rice, cotton, African teak, camwood, palm-oil, country cloths, &c. The imports amounted to 73,138*l.* in 1860; to 109,581*l.* in 1861; and to 99,825*l.* in 1862; while the exports were of the value of 109,137*l.* in 1860; of 136,838*l.* in 1861; and of 154,443*l.* in 1862. There entered the river 157 vessels, of 36,339 tons, in 1862; of these, 75 vessels of 21,332 tons were British, and 73 vessels with 18,095 tons were French. The settlement was established in 1816; it was several years ago threatened by the neighbouring Barra, chieftain, but friendly relations have since been entered into with that nation. (Alexander's Voyage to the Colonies of W. Africa, in 1835, pp. 65-72); Martin's History and Statistics of the Colonies.

BATINDAH, a large inland town of Hindostan, prov. Rajpootana; lat 30° 12' N., long. 74° 48' E. Its vicinity has been celebrated for its breed of horses.

BATLEY, a town and par. of England, W. R. co. York. The par. contains 6,390 acres, with a pop. of 25,278 in 1861. It is principally in the Wapentake of Aggbrig, but partly also in that of Morley: the town, which has 7,206 inhab., is in the former. The pop., both in the town and the contiguous district, is principally engaged in the woollen trade, especially in the manufacture of what is called white cloth. The church, built in the reign of Henry VI., has several monuments of the Fitzwilliam, Saville, and other principal families in the vicinity. There is here also a well-endowed free school, founded in the reign of James I.

BATOUM, a sea-port town of Turkey in Asia, prov. Trebizond, near the Russian frontier, on the E. shore of the Black Sea, 4 m. N. from the mouth of the Tchorok, lat. 41° 38' 41" N., long. 41° 38' 55" E. It is built in a straggling manner, and is not fortified. The harbour, which is open to the ENE. and N., is defended on the W. by a projecting tongue of land, and has deep water, large ships anchoring within a few feet of the shore. The contiguous country is fertile in fruits, corn, and rice; but it has very little trade. (Klaproth, Tableau du Caucase, p. 162.)

BATTAGLIA, a village of Austrian Italy, prov. Padua, on the canal of Monselice, 10 m. S. by W. Padua. Pop. 2,454 in 1857. It has hot-water baths, which, with commodious buildings and agreeable promenades along the canal, attract a considerable influx of company.

BATTALAH (*Vatala*), a large town of Hindostan, prov. Lahore, considered the healthiest place in the Punjab; in an open plain, 26 m. NE. Umritsar; lat. 31° 48' N., long. 75° 6' E.

BATTECOLLAH (*Batucala*, the round town), a maritime town of some size in Hindostan, prov. Canara; lat. 13° 56' N., long. 74° 37' E.

BATTERSEA, a par. of England, hund. Brixton, co. Surrey, 4 m. SW. St. Paul's. Pop. 1821, 4,992; 1831, 5,540; 1861, 24,615. Area 3,020 acres. The parish comprises a low level tract on the S. bank of the Thames, and forms one of the suburbs to the metropolis; a wooden bridge connects it with Chelsea, and a suspension bridge, erected in 1857, with Pimlico and the western parts of the metropolis. A park, called Battersea park, was formed in 1855-9 on some low ground near the river. It contains many respectable houses and detached villas. The parish church is a modern brick building, with tower and spire, beside the river; another has been erected by the commissioners appointed for such purposes. There is a free school for 20 boys, and a national school for 150 boys and girls. The parish is intersected by railways in all directions; the London and South Western line passing through its whole length, and the London, Chatham, and Dover, the London, Brighton, and South Coast, and other railways crossing and re-crossing it from north to south. A portion of the parish, which, however, is yearly getting more restricted by the building of new houses and 'villas,' is still laid out in market-gardens, for the supply of vegetables to the metropolis, for which the parish is noted; especially asparagus, said to have been first cultivated here. The place is called Patricery in Domesday, and the manor was given to the abbey of Westminster, in exchange for that of Windsor, by William I.; hence the present name. It was granted by the crown, in 1627, to the St. John family, and the celebrated Lord Bolingbroke

was born and died in their mansion (since removed). It is now the property of Earl Spencer.

BATTLE, a par. and town of England, co. Sussex, rape Hastings, hund. Battle, 52 m. SE. London, and 67 m. by South Eastern railway, which has a station here. Pop. of parish, 8,293 in 1861. The town is pleasantly situated amidst woody knolls, which bound it on the S. and SE., and enclose it in a vale which winds on to the sea, at Hastings. The principal street (about $\frac{1}{2}$ m. in length) is terminated by the magnificent gateway of the old abbey. There are a few good modern structures, but the greater part of the houses are ancient, and of mean appearance. The church, partly in the Roman and partly in the Gothic style, has many antique devices on the glass of its windows. There is an endowed school for 30 girls and boys, and a charity school for 40 boys, supported by subscription. A weekly market is held on Tuesday; a monthly one on the same day, for cattle; and two annual fairs on Whit Monday, and Nov. 22. Gunpowder is the only manufacture, for which there are several extensive mills in the vicinity: its excellence is surpassed only by that made at Dartford. Battle is the central town of a poor law union of 14 parishes. The ancient name of the town was Epiton; its present name is derived from the great battle between Harold and William of Normandy, in 1066, of which it was the arena. In the following year the Conqueror founded the abbey, in commemoration of his victory, the ruins of which still sufficiently attest its ancient magnificence. On the completion of its church, he deposited in it the famous roll in which the names of all the leaders who had accompanied him on the expedition were inscribed. Copies of it are still extant, though not free from the suspicion of being interpolated and falsified. Benedictine monks from Normandy were its first occupants: their abbot was mitred, and a peer of parliament. The abbey was built on a gentle acclivity, overlooking a fine extent of woods and meadows, and was endowed with all the lands for a league round, besides various manors and churches in other counties. Many subsequent royal and private donations were added to the original endowment, and its prerogatives and immunities were placed on the same footing as those of Christ Church, Canterbury. In the reign of Edward III. leave was obtained to fortify the abbey. At the general suppression its annual revenue was, according to Speed, 987*l.* 0*s.* 10*d.*: Dugdale makes it 880*l.* 14*s.* 7*d.* Sixty monks were pensioned off. The remains occupy three sides of a large quadrangle. (Camden's Brit.; Dugdale's Monas.; Pennant's Tour; Gilpin's Coast of Sussex.)

BATURIN, a town of European Russia, government of Tchernigoff, beautifully situated on the Seim, an affluent of the Desna. Pop. estimated at 5,600. It is chiefly remarkable for the castle in its vicinity belonging to Count Rasoumofski, who has established manufactures in the town of cloth and wax candles.

BAUGE, a town of France, dép. Maine et Loire, cap. arrond., on the Couanou, or Couernon, 23 m. ENE. Angers. Pop. 8,546 in 1861. The town is agreeably situated in a fine valley, and has some good houses, but it is built with the greatest irregularity. It has a tribunal of original jurisdiction, a college, or high school, and manufactures of cloth and coarse linen. The English forces, under the Duke of Clarence, were totally defeated in the neighbourhood of this town in 1421, and the duke killed.

Not far from Bauge is the village of Bauge-lc-

Viell, with the ruins of an old castle that formerly belonged to the dukes of Anjou.

BAULEAH, an inland town of Hindostan, prov. Bengal; on the N. side of the main trunk of the Ganges, 20 m. NE. Moorsshedabad. It is large, populous, has considerable trade, and is the seat of a commercial resident on the part of the E. I. Company.

BAUMANSHOHLE, a celebrated cavern in the duchy of Brunswick, near Blankenburg. It abounds with stalactites, and is interesting to the geologist from the variety of fossil bones found in it; among which are those of the great cave bear, now extinct. The cavern was named after a miner, who discovered it in 1660.

BAUMEAN, or **BAUMIAN**, a town of Caubul, the Thebes of the E., country of the Hazanreh, on the face of the Koh-i-Baba range of mountains; lat. 34° 34' N., long. 68° 8' E., 56 m. WNW. Caubul. The valley, on one declivity of which it stands, contains many caves, dug in a soil of indurated clay and pebbles, and in which rings and relics, coins, &c., bearing Cufic inscriptions, are found; but Baumean is chiefly celebrated for two gigantic male and female figures, cut in *alto relievo*, on the face of the mountain. The male figure is the largest, and about 120 ft. high; it is without much symmetry or elegance, and is considerably mutilated, the Mohammedans that pass that way always firing a shot or two at it. The lips are large, the ears long and pendant, and there appears to have been the resemblance of a tiara on the head; the body is covered by the remains of a mantle, which has been formed of a kind of plaster, and fixed on with wooden pins. The female figure is more perfect than the other, and has been dressed in the same manner: it is about half the size, and cut in the same hill, 200 yards from the former. The niches in which both are situated have been at one time plastered and ornamented with paintings of human figures, but these have nearly disappeared. These images are supposed to be Buddhist. Sir A. Burnes says the head of the large one is not unlike that of the great trifaced idol of Elephanta, and near the celebrated tope of Manikyala (Punjab) he found an antique exactly resembling this head. Another antiquary, from an inscription above the head of one of them, has believed them to have been cut about the 3rd century of our era, while the Sassanides filled the throne of Persia. They are not mentioned by any of the historians of Alexander the Great; but both the idols and excavations of Baumean are referred to by those of Timour or Tamerlane.

BAUME-LES-DAMES, a town of France, dép. Doubs, cap. arrond., on the Doubs, 18 m. NE. Besançon. Pop. 2,577 in 1861. It is a handsome little town, finely situated in a basin formed by hills planted with vines; has a court of original jurisdiction, a college, and a small public library, with paper-mills and tanneries. It derives its name from a rich and celebrated convent for nuns, founded in it during the 5th century, and destroyed at the Revolution.

BAUTZEN, a town of Saxony, cap. Upper Lusatia, on a height at the foot of which is the Spree, 33 m. ENE. Dresden; on the railway from Dresden to Lobau. Pop. 11,237 in 1861. The town is surrounded by walls, except one of its suburbs on the left of the Spree, and is well built, with straight, broad, and well-paved streets. Its cathedral, dedicated to St. Peter, founded in 927 by the Kaiser Henry II., has a tower 300 ft. high. The *Ortenburg*, formerly a royal palace, is now used for public offices; it has also a fine town-hall, a *landhäuser* or house of assembly for the

states, an orphan asylum, and four other hospitals, a house of correction, theatre, &c., with a gymnasium, a catholic chapter-house, a normal school, a mechanics' school, and other establishments for the purpose of education, and two public libraries. There are considerable manufactures of woollen, linen, and cotton stuffs, tobacco, wax, paper, and hosiery; a brass work, with breweries and distilleries, and tanneries. The town is the centre of a considerable commerce, particularly in woollen and linen articles.

Near Bautzen, on the 20th and 21st May, 1813, was fought the battle which bears its name, between the French army under Napoleon, and the combined forces of Russia and Prussia, 96,000 men strong, and commanded by the monarchs in person. The French were victorious; the carnage on both sides was great, and the allies effected their retreat in good order. Duroc, the intimate friend of Napoleon, was killed by his side in this engagement. About 7 m. E. by S. from Bautzen, is Hochkirch, the scene of one of the great battles of the Seven Years' War.

BAUX, a small town of France, dép. Bouches du Rhone, 10 m. N.E. Arles. Pop. 610 in 1861. It stands on the summit of a steep hill, and is remarkable for the ruins of its castle, formerly the residence of the counts of Baux, who contested the sovereignty of Provence with the counts of Barcelona.

BAVARIA (Germ. *Bayern*; Fr. *Bavière*), a country in the SW. of Germany, anciently a duchy, afterwards an electorate, and now raised to the rank of a kingdom, being one of the principal of the secondary European states, and the third in rank of the states comprising the German confederation. Bavaria is composed of two distinct parts, commonly designated the 'Territory of the Danube and Maine,' and the 'Territory of the Rhine.' The former, which comprises about 7-8ths of the monarchy, extends from 47° 19' to 50° 41' N. lat., and from 8° 51' to 13° 44' E. long., and is bounded N. by the kingdom of Saxony, the principalities of Reuss, and the duchies of Saxe-Coburg-Gotha and Saxe-Meiningen; E. and S. by the states of the Austrian empire; and W. by the territories of Electoral Hesse, Hesse-Darmstadt, Baden, and the kingdom of Württemberg. The Rhine territory lies on the W. side of that river, by which it is partly bounded, and is completely separated from the rest of the Bavarian dominions by the interposition of the territories of Baden and Hesse-Darmstadt. The kingdom extends from 48° 57' to 49° 50' N. lat., and from 7° 6' to 8° 31' E. long.

Area and Population.—The total area of the kingdom amounts to 1,384 German, or 29,617 Eng. sq. m., with a population, in 1861, of 4,689,837 inhabitants, or 158 on the square mile.

The kingdom is divided, for administrative purposes, into eight Kreise, or circles, of the following extent and population, according to the census of December 1861:—

Circles	Area in English Square Miles	Population in 1861
Upper Bavaria . . .	6,614	778,559
Lower Bavaria . . .	4,113	875,338
Palatinate . . .	2,206	608,069
Upper Palatinate . . .	4,198	485,895
Upper Franconia . . .	2,226	516,743
Middle Franconia . . .	2,798	545,285
Lower Franconia . . .	3,604	610,758
Suabia . . .	3,858	578,190
Total . . .	29,617	4,689,837

The census of December 1861 stated the existence of 1,131,054 families, so that each family

consisted, on the average, of little more than four heads.

Surface.—*Mountains.*—Bavaria has on the whole a mountainous character, being not only walled in by lofty mountains on the N. and S., but having extensive chains running through its interior. The loftiest mountains are the Noric Alps on the S., which separate it from the Tyrol; their most elevated points are the Zugspitze, circle of Isar, 9,689 ft., and the Wetzschroffen, 9,387. The Allgäu Alps, in the prov. of the Upper Danube, extend from Kempten, in a N.E. direction, to near Mindelheim. The Hochvogel in this range is 8,476, and the Teufelgestas, in the same prov., 9,288 ft. The high lands on the N. side of the Danube contain the finely-wooded chain of the Spessart, which commences on the Maine, at the place where that river separates it from the chain of the Odenwald, and traverses the prov. of Lower Maine from N. to S., covering an area of 147 sq. m. The loftiest summits of this range, such as the Engelsberg and the Geyersberg, rise to the height of about 2,000 ft. The most common rocks in the Spessart are granite, gneiss, syenite, and porphyry, which serve as a support for sandstone, argil and calcareous rocks. S. of the Maine, and along the frontiers of the Lower and Upper Maine, and the Rezat, is the range of the Steigerwald, which reaches nearly to the chain of the Spessart, and is only separated from it by the course of the Maine. The Rhone-Gebirge, a bleak and desolate chain of mountains in the circle of Lower Franconia, unite on the W. with the chain of the Vogelsberg, and on the E. with the Thuringer-Wald: they are more extensive and more elevated than the range of the Spessart, and are covered half the year with snow. The Fichtel-Gebirge, which connect the Rhone mountains with the Bohemer-Wald, lie in the N.E. part of the Upper Maine. They consist chiefly of granite, gneiss, quartz, and claystone. The highest point in the range is the summit of the Ochsenkopf or Ox's Head (5,280 ft.). The chain of the Bohemer-Wald, which commences at the sources of the Eger, and running along the E. confines of Bavaria, terminates at the Moravian mountains, throwing out several branches into the circles of the Lower Danube and Regen, may be about 200 m. in length. The most elevated summits are the Asber, 4,824 ft.; the Rocher, 4,720 ft.; and the Dragell, 4,054 ft. The Bavarian mountains are in general well wooded. In the flat country along the Danube there are some very extensive marshes.

Rivers.—Bavaria is watered by the largest rivers of Germany. The most considerable of these is the Danube, which, on entering Bavaria from the Württemberg dominions, is of sufficient size to be navigable, and afterwards flows through the heart of the kingdom, making, with its windings, a course of about 270 Eng. m. In its course through the Bavarian territory, it flows past the towns of Günzburg, Höchstädt, Donauwörth, Neuburg, Ingolstadt, Ratisbon, Straubing, Vilshofen, and Passau, and receives no fewer than 38 rivers: the chief of these, on the right bank, are the Iller, the Lech, the Isar, and the Inn, all having their source among the Alps. The Iller, before its junction with the Danube, receives the Bleibach; the Isar is joined by the Loisach, Amper, and Würm, and falls into the Danube below Deggenndorf; the Inn, which rises in Switzerland, flows through the Tyrol, and is navigable before it enters Bavaria: it receives the Alz, the large river Salza, &c., and joins the Danube near Passau. The streams on the left or Franconian side, which are by no means so large as those on the opposite bank, are the Würnitz, the Altmühl, which has its source in the

Steiger-Wald and falls into the Danube near Kehleim; the Rohrbach, near Babenheim; the Naab, which descends from the Fichtel-Gebirge, and discharges itself into the Danube above Ratisbon; and the Regen, that flows from the Bohmer-Wald, and, traversing the circle to which it gives name, joins the Danube opposite Ratisbon.

The only considerable river in the N. part of Bavaria is the Main, formed by the junction of the Red and White Main, the former originating in the vicinity of Neubau, and the latter descending from Ochsenkopf, part of the Fichtel-Gebirge, in the circle of the Upper Danube. These unite near Culmbach, and traverse Franconia in a W. direction, receiving in their progress the Rodach, the Linn, and the Franconian Saale, which flow from the Rhene-Gebirge, the Regnitz, and many smaller streams. The Rhine forms the E. boundary of the Bavarian province which bears its name.

Lakes.—The lakes are numerous, and some of them large. Besides the lake of Constance, only a small portion of which is situated in Bavaria, the most extensive are the Ammer, about 12 m. long and 27 in circuit; the Würm, 14 m. in length and 4 in breadth; and the Chiem, about 85 m. in circuit. The Staffen or Staffel, the Walchen, the Kochel, and the King's or Bartholomæus lakes, are also of considerable extent. Most of these lakes abound in fish, and several valuable fisheries have been established on them.

Bavaria possesses numerous canals. A canal was made in 1807 between Rosenheim, 7,400 ft. long and 86 ft. broad. Another canal was finished in 1818 between Würth and Kuitlingen, 10,624 ft. long and 62 ft. broad. There is a canal in the W. part of the circle of the Isar 13,000 ft. in length, which saves a distance of 5 m., and avoids the dangerous navigation of the Ammer Lake. A grand canal, called the Ludwig's Canal, after the late king, which joins the Danube with the Rhine, was completed in 1860. It extends from Dietfurth, on the Altmühl, a navigable affluent of the Danube, to Bamberg on the Main, a distance of 23½ German, or about 112 Eng. m. It is on a large scale, and has been constructed at an expense of above a million sterling. This magnificent undertaking, which has come to realise the project of Charlemagne for joining the Black Sea to the German Ocean, was carried out at the instigation and with the assistance of the Bavarian government. It is of great importance to Bavaria.

Climate.—The climate of Bavaria is in general temperate and salubrious, but the temperature is considerably modified by local differences in the elevation of the soil. In the mountainous regions it is cold and bleak, but milder in the low country: in the plains and valleys the summer heats are sometimes oppressive.

Forests.—The Bavarian forests are very extensive and valuable; a considerable portion of the kingdom being still covered with natural woods. The most common trees are oak and beech in the plains, and pine and fir on the mountains. The most extensive forests are situated on the Spessart and Rhene mountains, and in the neighbourhood of Kempten, where they cover a surface of 253,143 acres. The annual product of the Bavarian forests is estimated at 2,870,000 klafters; and timber is one of the most important articles of export. However, in recent years, the trade in this article has rather fallen off, owing to the clearing of the forests in the more fertile provinces of the kingdom, especially those in the territory of the Rhine. The greater quantity of the exports of timber is now derived from the mountainous districts, from which the numerous rivers and torrents carry it down in rafts.

The following table exhibits an approximate view of the extent, in acres, of the forests in the different circles, distributed among the classes to which they belong:—

Circles	Forests belonging to the State	To Towns, Bishops, Villages, & Foundations	To Individuals	Total Number of Acres
Isar . . .	521,560	101,096	813,558	1,436,209
Regen . . .	258,010	126,661	411,733	796,404
Lower Danube	173,638	788	481,253	655,569
Upper Danube	217,627	160,699	374,849	753,175
Lower Main . .	283,611	337,524	190,576	761,701
Upper Main . .	416,545	100,342	197,529	714,716
Rezat . . .	225,886	151,243	165,067	541,696
Rhine . . .	366,067	358,550	70,889	704,706
Total . . .	2,412,589	1,346,896	2,704,649	6,363,876

The gross annual value of the woods and forests belonging to the state amounts to nearly 850,000*l.*; but, in consequence of the heavy expenses attending their management, the net produce received by the state amounts only to little more than half that sum.

Minerals.—The mineral products of Bavaria are important and valuable; but notwithstanding the encouragement held out by government, they have hitherto been comparatively neglected. The principal products are salt, coal, and iron. Salt is a royal monopoly, and produces a considerable revenue. There are a considerable number of iron-works and coal-mines in operation; they belong partly to the crown, and partly to private individuals. Black lead is obtained in some places; and small quantities of copper and quicksilver are also produced. There are an immense variety of marbles. The porcelain clay of Bavaria is probably the finest in Europe.

Agriculture.—The soil of Bavaria, where it is not covered by morasses or mountains, is generally good; and in the plains and valleys it is deep, fertile, and capable of producing all kinds of crops. A great deal of waste land has recently been reclaimed; and an improved system of cultivation has been introduced into various districts, and is diffusing itself over the whole country. Government has zealously exerted itself to promote improvement, not merely by the reforms it has effected in the systems of administration and education, but by the drainage of extensive marshes, and by its efforts to improve the breed of sheep. There were, in 1861, according to official estimates, 1,336,000 sheep, 370,000 horses, 3,226,000 horned cattle, 580,000 pigs, and 105,000 goats.

Agriculture is most improved in the valley of the Danube, the circles of Kezat, and of the Upper and Lower Main. The plain lying to the S. of Munich has, on account of its productiveness, been styled the granary of Germany. Principal crops—rye, wheat, oats, and barley; but rice, maize, and buckwheat are also partially cultivated. No accurate estimate can be formed of the productiveness of the crops, varying, as they must necessarily do, not only according to the quality of the soil, but also according to the skill with which it is cultivated, and the nature of the seasons. But Englishmen who have been in Bavaria state, that under proper culture, the produce of corn and turnips is equal to what it is in the best cultivated districts of England; and notwithstanding the vast consumption of corn in the breweries, Bavaria has invariably a large surplus for exportation.

From official returns for the year 1862, it appears that the land under crop throughout the kingdom was as follows:—

Crops	Number of Acres under Crop—Bavarian 'Morgen'	Amount of Produce—Scheffel
Wheat . . .	1,439,629	12,413,128
Rye . . .	2,369,374	14,707,210
Barley . . .	1,125,699	8,091,400
Oats and Millet .	1,876,654	15,171,875
Potatoes . . .	918,827	50,730,047

The average produce of wheat, per Bavarian acre, is 9 scheffel; of rye, 6 scheffel; of barley, 7; of oats and millet, $8\frac{1}{5}$; and of potatoes, 55 scheffel. The Bavarian acre is equal to 0.65 Eng. acre, and the scheffel equal to 761 imp. quart.

The hop-plant is cultivated to a considerable extent, particularly in the circles of Rezat and the Upper Danube: the quantity raised varies from 80,000 to 40,000 cwt. a year, of which about a half is exported. The culture of the vine is well understood in Bavaria. The best vineyards are in the circles of the Lower Maine and the Rhine. The former produces the wines of Franconia, known by the names of the Maine, Were, Saale, and Tauber wines. The famous Steiuwein and Liechtenwein are produced on the banks of the Leiste, not far from Steinberg, in the mark of Würzburg. The best wines in the circle of the Rhine are those produced near Deidesheim and Wachenheim. The average yearly produce is estimated at about 800,000 eimers. Hemp and flax are grown in some districts, but the supply is not sufficient for home consumption. Madder and liquorice are very extensively produced, and form considerable articles of export. The culture of the potato has rapidly increased during late years, particularly in the N. provinces. Beetroot is raised in considerable quantities, and there are several factories for its conversion into sugar. Tobacco is grown in considerable quantities in the circles of Rezat and Rhine. Silk has been raised of late years, but not to any great extent. Considerable portions of ground have been laid out in nurseries and flower-gardens, and large quantities of fruit are exported from the territories of Maine and the Rhine.

It is estimated that the produce of hops in 1861 amounted to 224,000 Zollverein cwt., representing a value of 11,000,000 florins; of these 60,000 were consumed by the Bavarian breweries, and 144,000 cwt. exported abroad, valued at 7,770,000 florins. The produce in barley for the same period was equal to 9,500,000 cwt., of which 5,500,000 were devoted at home to the fabrication of beer. The beer of Bavaria therefore (estimated for 1861 at 8,500,000 eimers, with 60 measures to the eimer) costs annually circa 19,000,000 florins, paying 6,000,000 florins malt tax to the state, and further 2,000,000 florins for municipal excise, showing a total cost of 27,000,000 florins.

From the 5th of August, 1861, to the 9th of May, 1862, 185,268 scheffel of malt were employed in the breweries of Munich alone; one single brewer having paid 300,000 florins (25,000*l.*) malt tax in the course of the year 1861-2. The consumption of beer per head of the population is reckoned at $2\frac{1}{2}$ eimer yearly in Franconia, the Palatinate, and Lower Bavaria; at $3\frac{1}{2}$ eimer in Upper Bavaria; and at $4\frac{1}{2}$ eimer per head of the population in the capital. (Report of Mr. Consul Bonar, dated Munich, July 15, 1865.)

The immense quantity of beer consumed in Munich alone, is forcibly illustrated as follows by a journal of that city of June 1863:—

'According to the most authentic returns, the brewers of Munich alone have now laid in a stock amounting to no less than 632,754 eimer, or 61,900 more than in 1862; each eimer containing 60

measures (each measure being equal to between 4 and 5 pinte English).

'A flowing spring, yielding two measures per minute, would require to flow uninterruptedly during the space of thirty-six years and a half in order to produce the above quantity.

'That amount of beer would fill to the brim a pond or small lake, of a surface equal to $10\frac{1}{2}$ Bavarian acres, and 4 ft. in depth; or, again, it would form a river of 82 ft. wide, 4 ft. average depth, and $2\frac{1}{2}$ m. long.

'The barrels required to contain it, and such as are commonly in use in this country, if laid beside one another, would occupy a space of $12\frac{1}{2}$ leagues in length (or nearly 82 English m.), and supposing the above-said amount of beer to cover the expected demand during the coming summer (which, however, is seriously called in doubt), it would average $1\frac{1}{2}$ measure per head of the whole population of Munich irrespective of age or sex. In Munich alone 212,308 scheffel of malt have been employed in the manufacture of beer from August 1862 to May 1863.'

But some portion of this large stock in hand is consumed out of the capital, for the Munich beer is largely exported to the most distant markets. Austria and France consume it in considerable quantities, and it finds its way across the Atlantic to the Brazils, and traverses the Atlantic and Indian Oceans to Java, Borneo, and other countries. Professor Burckhardt has declared that whilst in 1859 Bavaria produced only 72,000 cwt. of hops, the yield in 1862 amounted to no less than 150,000 cwt., whilst others compute it even at 180,000 cwt. As in England, however, so also in Bavaria, there is a notable difference as to quality in the produce of the various soils. Among the best in Bavaria are the districts of Spalt and Hersbruck: the former having produced, in 1862, 11,108 cwt. 13 lbs., yielding 1,119,347 florins; the latter, 27,409 cwt., fetching upwards of 3,000,000 florins.

The above statistics, then, show the vast importance to Bavaria of this branch of her agricultural produce, and of her commerce in hops, of which Nurnberg is the chief emporium. The total harvest of hops in Bavaria during the four years 1858, 1859, 1860, and 1861, amounted to 211,696 cwt. 53 lbs., sold at 22,453,398 florins. (Report of Mr. Consul Bonar, dated July 15, 1863.) 'The establishment of Herr Pschorr, at Munich,' says a traveller, 'almost rivals the works of our Barclay and Perkins.' In every corner of the city you find beer-houses; and when you see a Bavarian peasant not working, you are sure to find him with a can of beer in his hand.' (Germany in 1831, ii. 377.) It may be supposed, perhaps, that this enormous consumption of beer must be injurious to the labouring population; but this does not seem to be the case. The desire to possess this luxury stimulates their industry; and notwithstanding their indulgence in it, they are well clothed and well fed; there is no appearance of abject poverty amongst them, and beggars are never seen.

Next to beer, the staple products of manufacturing industry are coarse linens, woollens, cottons, leather, paper, glass, earthenware, jewellery, ironware, basket-ware, and wooden articles. Coarse linens are manufactured to a considerable extent; but the supply of woollen stuffs, worsted hose, and cotton goods, is inadequate to the consumption. The leather manufacture is extensive and important, and leather is largely exported. There are above 150 paper-mills, about 50 glass-houses, 2,000 saw-mills, many establishments for the manufacture of wooden clocks, and toys, and of porcelain

and earthenware. But some of these trades are on the decline, and, to judge from the census returns, it would appear that the industrial population in general has been decreasing between the years 1840 and 1861 very nearly nine per cent. This is ascribed to the system of industrial protection prevailing to the present day, nearly all trades being united in guilds, possessing great privileges and monopolies.

The occupations of the people were, according to the census, in every thousand inhabitants, during two periods:—

	1840	1861
Agriculture	657	679
Industry and Commerce	257	227
Civil Service, Fund-holders, &c.	54	55
Military Service	18	19
Paupers, on Public Charity	18	20

Certain industrial occupations, however, are, notwithstanding the system of protection, in a highly flourishing state. Ironware, especially nails and needles, is extensively manufactured, and the exports are considerable. The optical, mathematical, surgical, and musical instruments, made at Munich, are highly prized on the Continent, especially the telescopes of Fraffenhofer, which are superior to those made anywhere else. There are also foundries for cannon, and manufactories of muskets and other small arms, &c.; and considerable quantities of jewellery are exported to most European markets. The principal manufacturing towns are Augsburg, Nuremberg, Furth, Schwabach, Hof, and Bayreuth.

Commerce.—The central situation of Bavaria renders her well suited for the transit and carrying trade; and to this Augsburg, Nuremberg, Ratisbon, and Spire, owed the greater part of their wealth and celebrity during the middle ages. But in modern times the means of profiting by the natural advantages of the country in this way have been comparatively neglected. Within recent years, however, they have begun to attract the attention they so justly deserve. Besides the great canal uniting the Danube with the Rhine, a joint stock company established in 1838 a regular steam communication between Ratisbon and Linz, in Austria, which was extended in 1839 to Donauehrth and Ulm. The first railroad with locomotives introduced upon the Continent was that between Nuremberg and Furth, opened in 1835. Bavaria has a great resource for commercial undertakings, in the credit enjoyed by the bankers of Augsburg, which is still one of the principal places of the Continent for the negotiation of bills.

The exports consist chiefly of corn, timber, wine, cattle, sheep, and hogs, butter, salt, iron, leather, glass, hops, fruit, beer, wool, optical and mathematical instruments, wooden toys, jewellery, maps, and artistic objects, of an average annual value of 14,000,000 fl., or 1,225,000*l*. The quantities of the principal articles exported are at an average:—

Horned Cattle	190,000 to 200,000 head
Horses	12,000
Sheep	225,000
Hogs	565,000
Cheese and Butter	100,000 cwts.
Wool	19,000
Hops	22,000
Dried Fruit	53,000
Wheat	200,000 grs.
Wine (value)	1,250,000 fl.
Timber (value)	2,500,000

The imports consist principally of sugar, coffee, and other colonial products; spices and dye-stuffs; cotton stuffs, silks, woollens, and fine manufactures of all kinds; drugs, hemp, and flax. The imports

of cattle are also extensive, and those of horses exceed the exports. Further details as to the commerce of Bavaria are given in the statistical returns of the trade of the Zollverein, or German customs' league, of which it forms a part. Its proportion of the joint revenue of the league is 16*·*94, or 17 per cent. (See ZOLLVEREIN; also PRUSSIA.)

Until the formation of the league, which has opened a vast extent of country to the products of Bavaria, its natural facilities for commercial intercourse were defeated by its own prohibitory regulations, and those of most of its neighbours. Sounder and more enlightened views, as to commerce, are now, however, beginning to prevail all over Germany; and it is but justice to add, that the Bavarian government has given a powerful impulse to industry by establishing mechanics' schools, annual exhibitions, and prizes; and still more by the abolition of the pernicious privileges of guilds and corporations. But a vast deal still remains to be effected before industry can make any real progress in this and most other German states. Numerous police regulations still interfere with the free exercise of industrial pursuits, and a great many things which ought to be left to the working of the great laws of demand and supply, such as the number of labourers permitted to reside in towns, the number and distribution of trades, the prices of bread and meat, and even the introduction of new machinery, are all determined by artificial arrangements, dependent on the calculations and estimates of the minister of the interior. The wonder is not, where such regulations prevail, that industry should be in a depressed condition, but that it should exist at all. And, in point of fact, the progress it has made is principally ascribable to the fact of Bavaria having within her limits Augsburg, Nuremberg, and other towns that, being formerly free imperial cities, have been but little injured by these preposterous regulations.

Money and Measures.—The Bavarian florin, divided into 60 kreutzer, is equivalent to 21*d*. sterling; the eimer, or measure of wine, to 9*½* gallons; and the scheffel, or measure of corn, to 7*·*61 imp. quart.

Population.—Considering the lengthened period of tranquillity that Bavaria has enjoyed, and the stimulus given to industry by the secularisation of the property of the monasteries, and the abolition of guilds and corporations, the progress of population has been slower than might have been expected. This slow progress would seem to be, in part at least, accounted for by the law which enacts, that '*no marriage between people without capital shall be allowed without the previous permission of the poor institutions*;' that is, of the principal persons in each provincial district elected to superintend the management of the poor, who are bound to refuse such permission, unless they see a reasonable prospect of the parties being able to provide for the children that may be expected to spring from the proposed union. To insure their vigilance, it is enacted, that the members of poor institutions neglecting to enforce this law '*are to answer for the maintenance of the said families*, should they not be able to maintain themselves.' Undoubtedly, a law of this sort must tend powerfully to prevent improvident unions; and it is stated that it has retarded the increase of population, and had likewise a certain effect in averting extreme poverty and consequent misery. (See Appendix F. to Poor Inquiry Returns, p. 22.) The subjoined table shows the slow progress of population in the course of very nearly half a century:—

Circles	Population		
	1818	1855	1861
Upper Bavaria . . .	585,467	744,151	778,559
Lower Bavaria . . .	450,895	554,013	575,338
Palatinate	444,168	587,334	608,069
Upper Palatinate . .	403,481	471,900	485,895
Upper Franconia . .	394,984	499,913	516,743
Middle Franconia . .	437,838	533,587	545,285
Lower Franconia . .	501,212	589,076	601,768
Swabia	487,951	561,576	578,190
Total	3,707,966	4,541,456	4,689,837

The soil of the kingdom is divided among 947,010 proprietors: the division being greatest in the Palatinate, namely 228,976, and smallest in Upper Bavaria, viz. 109, 195. (Hermann, Dr. Von, Beiträge zur Statistik von Bayern, 1863.)

In Bavaria all destitute persons have a legal claim to relief; and no doubt it was the wish to prevent the abuse of this right that led to the institution of the law above cited. That it has been effectual to this end, is universally admitted; but different opinions are entertained as to its influence on public morals. We are not sure, however, that it can be successfully impeached on this ground. At Munich, indeed, half the births are illegitimate; but the residence of the court, and of a numerous garrison, and the great influx of strangers, seem sufficiently to account for this. In the country, we believe, the morals of the Bavarians are, in this respect, quite on a level with those of the other German states. The proportion of illegitimate to legitimate births is, however, very high, being as 1 to 4·4.

Character and Manners.—The Bavarians, though all Germans, differ essentially in character, according to their descent from the different tribes of that people, and the different circumstances under which they have been placed. The inhab. of the Rhenish prov. are the most lively, active, gay, and enterprising. The Swabians are remarkable for a certain good-natured indolence, which has exposed them to much undeserved ridicule. The Franconians are diligent, intelligent, and steady, but vary in their social habits according to the influence which Protestantism has exercised upon the inhab. of the Upper Maine, or the dominion which the Catholic prelates of the empire have had upon their brethren in the fertile valley of the lower portion of that river. The population of the provs. S. of the Danube retain more characteristic peculiarities; and the Bavarians, though equally brave and well disposed with the rest, are heavier, more superstitious, and less active, though not less industrious. In the valleys of the Alps, the dress and manners of the Bavarians and Swabians bear a great resemblance to those of the Tyrolese; and the climate inclines them to prefer pasture to arable husbandry. The women are here more in the fields, and partake more of the out-door labour of the men than is the case in the N. provs. They drive the cattle up to the hills in summer; and their robust health manifests itself in the zeal with which they join in the waltz, and in their peculiar manner of singing, called '*Liedeln*.' The character of their songs is not unfrequently rather free; but the indispensable requisites of a favoured lover, according to the '*Schnaderküpffel*,' are superior agility and skill as a sportsman and wrestler, which must be proved by the possession of sundry trophies of the chase, such as chamois beards or feathers of the rarer birds, which, when worn on his pointed hat, form a challenge to rival heroes, who not unfrequently attempt to wrest them from their owner by force, according to the laws of vil-

lage chivalry. The wealth of the large towns on the navigable rivers in the middle ages, and the expensive habits which it produced, may yet be traced in the costumes of the wives and daughters of the burghers. The hood of rich gold lace, and the bodice ornamented with gold or silver chains, from which a number of medals hang, form the common dress of the richer portion of this class, and are ambitiously displayed by servants and the poorer trades-people on Sundays and holidays.

Roads and Railways.—Bavaria has excellent roads, and 256 German m. of railways, of which 162 belong to and are managed by the state; together with the post-office, telegraph, the Danube and Maine Canal, and the Danube Steam Navigation. The revenue of these public undertakings, in the year 1862, was as follows:—

	Receipts	Expenses	Net Revenue
	Florins	Florins	Florins
Railways	11,063,580	7,057,564	4,006,016
Post Office . . .	2,591,109	3,075,758	515,356
Telegraph	180,808	174,743	6,063
Danube and Maine Canal	190,086	127,629	62,457
Danube Steam Navigation	383,051	362,868	20,183
Total	14,408,631	9,798,555	4,610,076

The 162 German m. of railway belonging to the state were constructed at a cost of 120,000,000 florins, while the 94 German m. of private lines were made for about 86,000,000 florins. Of the private lines, the Eastern railway, joining Munich, Ratisbon, and Nuremberg, is the most important. The state railways, in 1862, carried above 4,000,000 of passengers, and 21,681,000 cwt. of goods; but produced only a net return of four and a half per cent. on the capital disbursed, while the private lines, on the other hand, paid a dividend of from five to six per cent. But these lines are neither so well managed, nor so free from accidents, as those under state control.

Constitution and Government.—The present constitution of the kingdom was promulgated May 25, 1818, but underwent various modifications, in a democratic sense, in 1848 and 1849. According to this charter, Bavaria is declared an integral part of the Germanic confederation; the domains of the state inalienable, and the crown hereditary. The executive power is in the hands of the king, whose person is inviolable; but his ministers are responsible for all his acts. The legislative functions are exercised jointly by the king and parliament, the latter consisting of an upper and a lower house. The upper house—chamber of *reichsräthe*, or counsellors of the realm—is formed of the princes of the royal family, the crown dignitaries, the archbishops, and the heads of certain old noble families, all these being hereditary members; to which are added a Roman Catholic bishop and a Protestant clergyman nominated by the king, and an unlimited number of other members appointed by the crown. The lower house, or chamber of representatives, consists of deputies of towns and universities, and various religious corporations. To be a deputy, it is necessary to be past thirty, and to be in possession of an assured income, from funds, a trade, or profession; to be on the electoral lists, it is required to be twenty-five years of age, and to be rated at a minimum of ten florins, or 16s. 8d. per annum. The representation of the country is calculated at the rate of one deputy to 7,000 families, or about 35,000 souls, of the whole population.

The members are chosen every six years, unless the king dissolves the chambers in the interim.

They are generally convened once a year, and must be assembled at least once in three years. The session usually lasts two months, but it may be extended or adjourned. In case of a dissolution, a new election must take place within three months. No taxes can be levied or augmented, and no law be passed or repealed, without the sanction of the legislature.

The cabinet is composed of seven members—the presidents of the departments of foreign affairs, justice, home affairs, finance, army, public education, and commerce. The ministers are not necessarily members of the chambers, but they have a right to be present at their deliberations. At the commencement of each session, they must lay before parliament an account of the appropriation of the public revenue; and the national debt cannot be increased without its consent. The privy council which is at the head of public affairs, consists of the king, certain princes of the royal family, the ministers of state, the field marshal, and six counsellors appointed by the king. The king has power to grant pardons and mitigate punishments, but in no case to stop the progress of a civil suit or criminal inquiry. The code Napoleon is in force in Rhenish Bavaria; but in other parts of the kingdom there is an extreme difference in the procedure as to civil matters; and a new, improved, and uniform code is much wanted. The penal code, introduced in 1818, might be much improved both in its regulations and in the form of its procedure. There is a high court of appeal and cassation at Munich; and in each of the provs. an inferior tribunal, to which an appeal lies from the courts of primary jurisdiction in the towns, and the seigniorial and cantonal courts of the country districts. A law has been passed providing for the purchase of the seigniorial jurisdictions on paying an equivalent to their proprietors.

Each of the eight circles into which Bavaria is divided is under the superintendence of two provincial boards; one for the management of the police, schools, &c.; the other takes charge of all financial matters. Each circle is subdivided into districts, which have assemblies, whose duties are to decide all local questions respecting public burdens and district rates.

According to the fundamental principles of the constitution, all citizens are eligible to the different offices of the state, without any regard to birth or rank in society; all are liable to personal service in the national defence; religious liberty and freedom of opinion are practically granted to all; and no one can be imprisoned or condemned but by the sentence of a judge. All religious and charitable endowments are placed under the superintendence of the state.

Religion.—Rather more than two-thirds of the population of Bavaria are Roman Catholics. In the census of 1861, as well as the preceding one of 1858, the religious persuasion of the inhabitants is not stated; and in the last in which this has been the case, that of 1852, the numbers stand as follows—Catholics, 8,176,883; Protestants, 1,283,894—subdivided into Lutherans, 906,886; Calvinists, 2,431; and Unitarians, 325,077—Mennonites and Greek Catholics, 5,560; and Jews, 56,038. The kingdom is divided into 2 Roman Catholic archbishoprics, those of Munich and Bamberg; 6 bishoprics; 171 deaneries, and 2,756 parishes. The administration of the Protestant Church is under a General Consistory—*Ober-consistorium*—and four provincial consistories. Of the three universities of the kingdom, two, at Munich and Würzburg, are Roman Catholic, and one, at Erlangen, Protestant. Among the Roman Catholics

there is one clergyman to 464 souls; among the Protestants, one to 1,018. The Roman Catholic Church is richly endowed, possessing, according to semi-official statements, property amounting to above 100,000,000 florins, or 8,500,000*l*. A large proportion of this wealth consists of landed estates, which are annually increasing in value. Thus, the property was stated to be worth 79,000,000 florins in 1838, and 92,000,000 in 1851. The state, besides, pays 1,562,000 florins, or 180,000*l*., annually to the clergy. The archbishop of Munich has a government salary of 20,000 florins, or 1,667*l*., and the archbishop of Würzburg, 15,000 florins, or 1,250*l*. Three of the bishops have an allowance of 10,000 florins, and the other three of 8,000, exclusive of episcopal residences. The constitution guarantees complete religious liberty to all inhabitants of the state, and Protestants as well as other dissenters enjoy unrestricted freedom of worship, and are eligible to all civil offices and military appointments. (Hermann, *Beiträge zur Statistik von Bayern*.) In the Palatinate, which was left in possession of many valuable privileges at the peace, the Protestant church is a completely organised body with Presbyteries and Synods as in Scotland.

Education.—Of late years the Bavarian government has made the most praiseworthy efforts to diffuse knowledge among the mass of the people. The system pursued is similar to that of Prussia. A school is established in every parish, under the superintendence of the ministers and elders. Over these are the inspectors of district schools, who are subordinate to the chambers of the interior, in the several provincial governments. The superintendence of all the educational institutions in the kingdom is committed to a board entitled 'The Superior Board of Education and Ecclesiastical Affairs.' Attendance at school is imperative on all children who have not received permission to be instructed by private tutors. Bavaria has one lyceum, twenty-five gymnasiums, thirty-four grammar schools, seven seminaries for the education of teachers, thirty-one local school commissions, and about 5,000 primary schools. There are nine seminaries for educating Catholics for the ministry. In the year 1861 there were in the kingdom 7,126 schools, with 8,205 teachers. Elementary schools—*Folk-schulen*—exist in all parishes, and attendance on them is compulsory for all children till the age of fourteen.

Bavaria has three universities—those of Munich, Würzburg, and Erlangen: the two former are Roman Catholic, the latter Protestant. The university of Munich is attended by above 1,800 students, the others, respectively, by about 400 and 300 each. In 1828 a new and improved system or study was adopted in the Bavarian universities, and a number of injurious regulations were suppressed. Besides these seminaries, there are in Munich numerous literary associations: such as the Royal Institute; an academy of arts and sciences; another of the fine arts; an agricultural society; a military and veterinary school, &c.; and there are a number of literary and scientific institutions in Würzburg, Erlangen, Nuremberg, Ratisbon, Augsburg, &c. The National Library in Munich, formed chiefly of those belonging to the suppressed monastic establishments, contains 540,000 volumes, including an extensive collection of curious manuscripts, pamphlets, &c.; and the university library contains 160,000 volumes. In this city there is also an extensive Sunday school, in which there are upwards of 1,600 scholars, with sixteen masters, who teach their pupils morals, the principles of physics, geography, natural history, chemistry, and geometry.

The sum voted by the Bavarian legislature for the support of education in the budget for 1861-7 amounts to 1,158,078 florins, or 96,089*l*.

Prison System.—The system pursued in the prison of Munich is peculiarly worthy of attention. The principle of the establishment is that every one in prison shall support himself. Every prisoner, therefore, is obliged to work at his own trade; and those who have not learnt a trade are permitted to make choice of one, which is taught to them. Whatever the criminal earns by his labour more than is sufficient for his maintenance, is kept until the term of his imprisonment expires, and is then given to him, deducting a quota for the expenses of the establishment. The surplus thus preserved for the benefit of the prisoners themselves, after the expenses of the establishment have been defrayed, usually amounts to nearly 50,000 florins (4,870*l*.) per annum. Instances have been known of persons at the expiry of their term of punishment receiving no less than 800 florins (70*l*.) upon leaving the prison. The number of persons confined in the prison is generally between 600 and 700. It is gratifying to learn that the system has produced the most satisfactory results. In but few cases are offenders committed a second time, and those who have been dismissed with the largest sums have in no instance returned. Many of the young, who have been taught trades in the prison, have afterwards become respectable handicraftsmen and tradesmen; and crime is yearly on the decrease. The proportion of capital punishments in Bavaria is as 1 to 20,000 persons.

Revenue and Expenditure.—At the conclusion of the war in 1815 the financial affairs of Bavaria were in a very embarrassed state; but through the judicious economy and measures of the sovereign and the legislature, they are now greatly improved. In 1819, the excess of the expenditure over the income was 2,007,800 florins; but in 1831-32, the revenue amounted to 29,217,009 florins, while the expenditure was only 27,095,888 florins. The budgets of the kingdom are voted by the chambers for the lengthened term of six years, which counts as a financial period. The gross annual revenue for the period, from 1861 to 1867, was calculated at 46,720,597 florins, or 3,893,597*l*., and the expenditure at the same sum. The national debt, amounting to 136,000,000 florins, includes the loans taken up for the construction of the state railways. In the budget for 1861-7, the proceeds from direct taxes are estimated at 9,333,087 florins, and those from indirect taxation at 18,260,343 florins. The direct taxes are levied as follows:—For the land tax, estates are selected for valuation in every district by royal commissioners and tax assessors, named by the district itself. The estates thus chosen are supposed to represent the *mean* of the surrounding lands, and according to their produce the tax is levied. Land of all kinds is divided into classes, differing from each other, in their ascertained production, by about one bushel per acre, and one-third being deducted for fallow, a rate called a *simpulum*, of 1 kreutzer in the florin, or $\frac{1}{12}$ per cent., is calculated on the remainder. Rents, rent-charges, services, and tithes, are considered as part of the produce of the land, and the rate is apportioned between the holders of these charges and the cultivator of the land, who pays a smaller share, in proportion to the heaviness of his burdens. The value of houses is estimated according to existing contracts of rent: where no such contracts exist, the value of a house is found by appraisement, in the same way as the land. The total rate at present levied on land and houses is 5

simples, or 8-15th per cent. on the produce. The family, or rather capitation tax, is paid by the whole pop. in 12 classes. The first class embraces the widows of labourers living on their labour, who are rated at 10 kr., or about 4*d*., annually; labourers paying 8*d*.; the highest class pays 1*l* per annum. The industry tax is paid by every individual or company carrying on trade or manufactures, according to five classes, each with five subdivisions. The classes are fixed according to the number of inhab. in the place where the trade is carried on. The lowest rate is 1*s*. per annum for common labour in villages; the highest is 15*s*. per annum, paid by bankers, merchants, wholesale dealers, and innkeepers, in towns containing more than 2,000 families. The direct taxes are less heavy in Bavaria than in most of the other German states. The large income of the sovereigns of Bavaria, from private domains, and other sources, has been extensively curtailed of late, under the constitutional government. The civil list of the king and the other members of the royal family amounts at present to 249,633*l*., and strict supervision is exercised by the chamber of representatives that this amount be not exceeded. In 1849, it was discovered that ex-king Ludwig had taken sums amounting to 1,529,000 florins, or 127,400*l*., from the public exchequer without accounting for them; whereupon the chamber demanded the restitution of the money, which his majesty was forced to give from his private purse. (Kolb, *Handbuch der vergleichenden Statistik*, Leipzig, 1862, p. 223.)

Army.—The armed force of the kingdom comprises the permanent army, the army of reserve, and the *landwehr*, or militia. All men, from the age of twenty-one, are liable to serve, with the exception of the upper nobility—*hohe adel*—who are entirely free from conscription; while the sons of the lower nobility and superior employes in the service of the state have the privilege of entering the military school of cadets. The period of service is six years. The purchase of substitutes is permitted by law, and takes place very extensively. During the years 1851-61, the troops of the kingdom amounted to the fixed number of 84,708 men, of whom 61,509 were in the permanent army, and 23,199 men in the army of reserve. This number was largely increased in 1861; the chambers, after long and stormy debates, having granted funds for the maintenance of 105,757 troops, namely, 81,337 for the permanent army, and 24,420 for the army of reserve. Besides the permanent army, there is a reserve destined to reinforce it. There is also the *landwehr*, or militia, composed of all Bavarians (excepting noblemen and clergymen), between the ages of 19 and 60, who have not been drafted into the army or into the reserve. In cases of emergency, they may be called upon to reinforce the army, but only in the interior. There is a corps of *gens d'armes*, composed of nine companies, making in all about 1,700 men. Not more than a third part of the troops are permanently embodied, the rest being disbanded after the drills in spring, return home to their families. The pay of a cavalry soldier is 10½ kr., about 4*d*., a day, with rations; that of an infantry soldier is 9½ kr., also with rations. Principal fortresses: Landau, circle of the Rhine; Passau, on the Danube; Würzburg, with the citadel of Marienberg; and Ingolstadt, at the confluence of the Schüttler and the Danube.

History.—The earliest inhabitants of Bavaria of whom tradition has preserved any account were the Boii, a tribe of Celtic origin: from them its old Latin name *Boiaria*, and the German name *Baiern*, are derived. About the reign of Augustus

it was subdued by the Romans, and formed part of what they termed Rhetia, Vindelicia, and Noricum. After the downfall of the Roman empire, the Bavarians fell under the dominion of the Ostrogoths and Franks, and after a protracted resistance, it acknowledged the sovereignty of Charlemagne. After the death of that monarch, the kings of the Franks and Germans governed Bavaria by their lieutenants, who bore the title of margrave, till 920, when the ruling margrave was raised to the title of duke. His successors continued to bear this title till 1623, when they were raised to the electoral dignity. In 1070 Bavaria passed into the possession of the family of the Guelphs, and in 1180 it was transferred by imperial grant to Otho, count of Wittelsbach, whose descendants branched out into two families, the Palatine or Rodolphine, and the Bavarian or Ludovician; the former inheriting the palatine of the Rhine, the latter the duchy of Bavaria. Duke Maximilian I. was elevated to the rank of elector in the Thirty Years' War, in recompense for his opposition to Protestantism. During the war of the Spanish succession, Bavaria suffered severely from following the adverse fortunes of France; but it received a great accession in 1777, when, upon the extinction of the younger line of Wittelsbach, the palatinate, after a short contest with Austria, was added to the Bavarian territory. During the late war with France, Bavaria, being long the firm ally of Napoleon, was rewarded with large accessions of territory from the spoils of Austria and Prussia; and the Bavarian monarch having contrived to change sides at a critical moment, when the fortunes of Napoleon were still doubtful, was confirmed in his extensive acquisitions by the treaties of 1814 and 1815; for though Austria recovered her ancient possessions in the Tyrol and the districts of the Inn and Hansruck, Bavaria received equivalents in Franconia and the vicinity of the Rhine. Elector Maximilian Joseph was raised to the rank of king by Napoleon I., in 1805, and the new title and dignity was recognised by all the European powers at the Congress of Vienna.

BAVAY (an. *Bagacum*), a town of France, dép. du Nord, cap. cant., 13 m. ESE. Valenciennes. Pop. 1,046 in 1861. The streets are neat and clean; and it has fabrics of iron plates, agricultural implements, with tanneries. This is a very ancient town, having been made the cap. of a prov. by Augustus, and destroyed by the Huns in 335. It was formerly surrounded by walls; and in the middle of the market-place is an obelisk with seven faces, indicating the direction of the Roman roads that terminated at this point. This obelisk is modern, but it replaces a Roman column, which is said to have existed in the 17th century. The remains of a circus and an aqueduct are still discoverable.

BAWTRY, an inland town of England, W. R. co. York, on the border of Nottinghamshire, 9 m. SE. Doncaster. Pop. 1,011 in 1861. It is situated on a declivity, sloping to the Idle, which is navigable for barges, and is traversed by the great N. road from London to York. It has a national school. The Great Northern railway has a station here. Market day, Thursday.

BAYAZID, a city of Armenia, cap. sanjack, 65 m. NNE. Van, and 82 m. SSW. Mount Ararat; lat. 39° 24' N., long. 44° 26' E. It stands on the declivity of a high hill, at the top of which is the citadel, containing a well-built mosque, and the palace of the pacha. It is surrounded by a wall and ramparts; and, besides three mosques and two churches, has the monastery of Karu Kilesea, celebrated for the beauty of its architecture, an-

tiquity, and grandeur. Messrs. Smith and Dwight, the American missionaries, by whom it was visited in 1832, represent the town as being in a miserably ruinous state, and without one decent house except the pacha's. 'Most of them were constructed like the underground cabins of the villages; the streets were obstructed by every species of filth; and nearly all the shops in the bazar, originally very few, were deserted.' (p. 415.) Kinneir estimates the pop. at 30,000 (Mem. Pers. Empire, p. 327), but this, doubtless, is now greatly beyond the mark. The missionaries previously referred to estimate the Moslem inhab. at 300 or 400 families, and the Armenians at 190 families; and if so, the pop. must be considerably under 5,000. Large numbers of the Armenians have emigrated to the territories now occupied by Russia.

BAYERSDORF, a town of Bavaria, circ. Rezat, near the Regnitz, 14 m. N. Nuremberg, on the railway from Bamberg to Nuremberg. Pop. 1,625 in 1861. The Ludwig canal, connecting the Rhine with the Danube (see BAVARIA), passes near the town. It is well built. In its vicinity are considerable copper works.

BAYEUX, a town of France, dép. Calvados, cap. arrond., 17 m. W. by N. Caen; lat. 49° 17' N., long. 0° 44' W. Pop. 9,482 in 1861. Bayeux is a very ancient city, and, with the exception of the principal street, is meanly built, with narrow and crooked streets. The fortifications by which it was formerly surrounded have almost entirely disappeared; and it has been enlarged by the junction of several suburbs. Principal public building—the cathedral, a large and venerable Gothic edifice, in the form of a cross. In the ancient episcopal palace, now the Hôtel de Ville, is preserved the famous *tapisserie de Bayeux*, representing the principal incidents in the history of the conquest of England by William the Conqueror. It is supposed to have been executed by Matilda, the Conqueror's wife, or by the empress Matilda, daughter of Henry I. It consists of a linen web 214 ft. in length and 20 in. broad; and is divided into 72 compartments, each having an inscription indicating its subject. The figures are all executed by the needle; and it is valuable alike as a work of art of the period referred to, and as correctly representing the costume of the time. This remarkable monument narrowly escaped destruction during the frenzy of the Revolution. (See an excellent article on the Bayeux Tapestry in the Penny Cyclopædia.) Bayeux is the seat of a bishopric, and has tribunals of original jurisdiction and commerce, a college, and a public library containing 7,000 volumes. The lace manufactures in the town and neighbourhood employ a large number of females; and there are also manufactures of table linen, calicoes, serges, hats, earthenware, &c., with establishments for cotton spinning. It has a station on the railway from Paris to Cherbourg. The country round is undulating, and affords good pasture. Large quantities of excellent butter are made in the vicinity, sent partly to Paris, and partly shipped for the French colonies.

Bayeux existed previously to the invasion of Gaul by the Romans. Under their sway it was successively called *Aragenus*, *Bajoca*, and *Civitas Bajocassium*, whence its modern name. It belonged for a considerable period to the English, and was twice burned down in the contests of the latter with the French: it also suffered severely during the religious wars.

BAYLEN, or **BAILLEN**, a town of Spain, prov. Jaen, at the foot of the Sierra Morena, 22 m. N. Jaen. Pop. 7,831 in 1857. It is surrounded by old walls; commands the road leading from

Castile into Andalusia; has a parish church, a palace belonging to Count Baylen, and a hospital. It has also numerous oil mills, with manufactures of coarse cloth, glass, bricks, and soap.

Baylen derives its principal cenity, and which events which took place in its vicinity, and which led to the *capitulation of Baylen*, signed the 20th June, 1808, by which General Dupont, and about 16,000 French troops under his command, surrendered to the Spaniards on condition of their being conveyed to France by the Spanish government; but the latter part of the capitulation was not carried into effect. The incapacity of Dupont was mainly instrumental in bringing about this result, which inspired the Spaniards with confidence, and was always regarded by Napoleon as the principal source of his disasters in the Peninsula.

BAYONNE, a sea-port town and fortress of France, dép. Basses Pyrénées, cap. arrond., at the confluence of the Neve with the Adour, about 4 m. from the embouchure of the latter, and 58 m. WNW Pau. Pop. 25,011 in 1861. Bayonne has a station on the great line of railway, opened in 1864, which leads from France across the Pyrenees into Spain. The town is divided into three nearly equal parts, which communicate by bridges. On the left bank of the Neve is Great Bayonne; on the right bank of that river, and the left bank of the Adour, is Little Bayonne; and on the right bank of the Adour, in the dép. Landes, is the suburb of St. Esprit, joined by a long wooden drawbridge to the rest of the town. Bayonne is a first-class fortress; the citadel, one of the finest works of Vauban, in the suburb of St. Esprit, commands the town and harbour; and recently the fortifications have been still further augmented and strengthened. It is well built; the streets, without being regular, are broad, and set off with good houses. There are some fine public places, of which that called de Grammont is the best. Its quays are superb, and though a little interrupted in parts by the new fortifications, afford fine promenades. Principal public buildings—cathedral and mint. Bayonne is the seat of a bishopric, of tribunals of original jurisdiction and of commerce; it has also a chamber of commerce, a diocesan seminary, schools of navigation and design, a public library, and theatre. A mint is established here, the coins issued from which are marked L.: attached to the mint is an assay office. About two-thirds of the population of the suburb of St. Esprit consist of Jews, most of whose ancestors had been, at different times, expelled from Spain. They have three synagogues, and there is one in the body of the town. There are here yards for the building of ships of war and merchantmen, with distilleries, sugar refineries, glass works, and fabrics of cream of tartar, chocolate, and liqueurs. Exclusive of these articles, the Adour brings down supplies of timber, masts, pitch and tar, cork, and other articles, from the Pyrenees, many of which are largely exported. The hams of Bayonne have long enjoyed a high celebrity, and its wines and brandies are also much esteemed. It used formerly to fit out a considerable number of ships for the cod and whale fisheries, but this trade, though not abandoned, has latterly fallen off. It is the seat of an extensive contraband trade with Spain.

The river is rather dangerous, at least in rough weather, or when there is a strong current of fresh water. It can only be entered at high water, when there is from 13 to 15 ft. over the bar at springs, and from 9 to 11 at neaps. The sea without is usually rough; and as the bar is liable to shift, a pilot is always required.

The military weapon called the bayonet takes

its name from this city, where it is said to have been first invented and brought into use during the siege of 1523. Though often besieged, Bayonne has never been taken; and hence the motto, *numquam polluta*. It was invested by the British in 1814; who sustained considerable loss from a *sortie* made by the garrison. At the castle of Merac, in the vicinity, the transactions took place between Napoleon and Charles IV. and Ferdinand VII. of Spain, that led to the invasion of the Peninsula by the latter. Mr. Inglis was highly pleased with Bayonne, which, he says, he should prefer as a residence to almost any place in the south of France.

BAYPOOR (*Vaypoo*), a maritime town of Hindostan, prov. Malabar, 7 m. S. Calicut; lat. 11° 10' N., long. 75° 52' E. Teak ships of 400 tons are built here.

BAYREUTH, or BAIREUTH, a town of Bavaria, cap. circ. Upper Mayne, on the Red-Mayne, 26 m. E. Bamberg; lat. 49° 57' N., long. 11° 40' E. Pop. 18,230 in 1861. It is partially surrounded by old walls, and has six gates and two bridges; is well built, with broad well-paved streets, fountains, and promenades; but it has notwithstanding a cheerless, deserted character, the absence of the court, on which it formerly depended, not being sufficiently compensated by manufactures or commerce. It has two palaces; the oldest, burnt down in 1753, but again rebuilt, is now converted into public offices: the new palace, a handsome edifice, the residence at times of members of the royal family, has a gallery of indifferent pictures: in the square before it is an equestrian statue of the Margrave Christian Ernest, and behind it is a public garden. Among the other public buildings is the opera house, the *manège*, or riding school, the gymnasium, founded in 1664, &c. It has several churches, and a synagogue; with a public library, hospitals, a lunatic asylum, &c. In its suburb, called the Georgiam See, now a dried lake, is a penitentiary, where a great variety of marbles from the Fichtelgebirge are polished and wrought up. Besides being the seat of the administration, and tribunals for the circ., it has a Protestant consistory. The geological cabinet and collection of fossils, belonging to the family of Count Munster, is one of the finest in Germany. There is here an extensive manufactory of porcelain, and tobacco-pipe heads; parchment, linen, cottons, &c. are also produced, and there are breweries and tanneries. About 2 m. to the E. is the Hermitage, a fanciful building erected in the early part of last century, at an immense cost, with gardens containing temples, terraces, statues, and fountains; and a fine park, now much out of order. The Margravine, sister to Frederick the Great, wrote her celebrated memoirs, so often mentioned in Mr. Carlyle's history of the Prussian hero-king, in the Hermitage.

Bayreuth formerly constituted the cap. of an independent principality—the margraviat of Bayreuth. On the death of the last margrave without issue, in 1791, his possessions devolved on the King of Prussia, who ceded them to France in 1807. In 1810, Napoleon transferred them to Bavaria; and their possession has been confirmed by subsequent treaties. (Carlyle's History of Frederick II. of Prussia, called Frederick the Great, 1863-5, which contains some interesting notices about Bayreuth.)

BAZA, a town of Spain, Granada, near the Guadalquivir, in an extensive, well watered, and fertile valley, 54 m. E. by N. Granada; lat. 37° 30' N., long. 2° 50' W. Pop. 7,275 in 1857, including 2 cants. in its jurisdiction. (Mifano.) It has a cathedral, 3 parish churches, 6 convents, an ecclesiastical seminary, and a hospital. The inhab.

are entirely dependent on agriculture. Baza is either on the site of the *Basti* of the Romans, or very near it, and vases and other interesting Roman remains are dug up in its vicinity. It was taken from the Moors after a long siege, in 1489.

BAZAS, a town of France, *dép.* Gironde, cap. arrond., on a rock 83 m. SSE. Bordeaux. Pop. 4,560 in 1861. It is old and ill-built. It was formerly the seat of a bishopric; and the ancient cathedral, now the parish church, though not large, is a remarkable monument of Gothic architecture. It has a court of original jurisdiction, and an agricultural society; with a royal saltpetre manufactory, a glass-work, and tanneries. Bazas is very ancient. It is the country of the poet Ausonius, who flourished in the 4th century, and was also, for a lengthened period, the residence of the dukes of Gascony. The country round was long known as the *Bazadois*.

BAZOUCHES-GONET, a village of France, *dép.* Eure et Loire, 15 m. SSE. Nogent-le-Rotrou. Pop. 2,192 in 1861. Bazouches is the name of several other small towns in France.

BAZZANO, a town of Central Italy, *prov.* Emilia, 15 m. W. Bologna, on the Sammoggia. Pop. 1,978 in 1861.

BEACHY HEAD, a conspicuous bold promontory on the S. coast of England, *co.* Sussex; lat. $50^{\circ} 44' 24''$ N., long. $0^{\circ} 13' E.$ It is formed of chalky white cliffs, that project perpendicularly over the beach, whence it derives its name, to the height of 564 ft. A lighthouse of the first class was erected, in 1828, on the summit of the second cliff to the W. of the head, 285 ft. above the level of the sea, and caverns have been cut in the cliffs, between the Head and Cuckmore Haven, in the view of affording places of refuge to mariners wrecked on this dangerous coast.

BEACONSFIELD, a market town and par. of England, *co.* Buckingham, hund. Burnham. Area of the par. 3,710 acres. Pop. 1,662 in 1861. The town is situated on an eminence, on the high road from London to Oxford, being 24 m. W. by N. of the former. It consists of four streets, arranged in the form of a cross, and its houses are mostly constructed of a mixture of flint and brick. The remains of Edmund Burke are deposited in the church, formerly a part of the monastery of Burnham; and the church-yard has a marble monument in honour of the poet Waller, to whom the manor belonged. Bullstrove, formerly a celebrated seat of the Portland family, is within a short distance of Beaconsfield. Market-day, Wednesday. It has fairs for the sale of cattle, on Feb. 18, and Holy Thursday, at which a good deal of business is done.

BEAMINSTER, a par. and town of England, *co.* Dorset, hund. Beaminster-Forum, div. Bridport, on the Birt, 128 m. WSW. London. Area of par. 4,850 acres. Pop. of par. 2,614 in 1861. The town is surrounded by hills, whence the springs, forming the river, issue. It has a clean respectable appearance, and is paved, and lighted by gas. The church is a large structure, on an eminence on the N. side, being a chapel of ease to that of Netherbury. A free school, founded in 1684, educates 100 boys: the ann. amount of its endowment is 160*l.* a year. There are almshouses for six poor women. The weekly market on Thursday, and ann. fairs Apr. 14, Sep. 10, and Oct. 9. There is a manufactory of sail cloth, and tin and copper wares are made in the town. It is the centre of a union of 26 parishes. Beaminster is a town of considerable antiquity; but it has been several times wholly or partly destroyed by fire, to which its modern appearance is attributable.

BEAR LAKE (GREAT), a very irregularly-

shaped and extensive sheet of fresh water, in the NW. part of N. America; between about 65° and 67° N. lat., and under the 120th deg. of W. long. The Bear Lake river flows from it to the Mackenzie river. Its waters are very pure, and it is said to be well supplied with fish.

BEAT (ST.), a town of France, *dép.* Haute Garonne, on the Garonne, 18 m. S. St. Gaudens. Pop. 1,863 in 1861. The town is entirely built of marble furnished by the neighbouring quarries; but being situated in a narrow valley, between mountains which conceal the sun for a part of the day, it is nevertheless very gloomy. It is the *entrepôt* of the contiguous valley of Arran, in Spain.

BEAUCAIRE (an. *Ugernum*), a town of France, *dép.* Gard, cap. cant., on the right bank of the Rhone, opposite to Tarascon, 14 m. E. Nîmes; lat. $48^{\circ} 48' 32''$ N., long. $4^{\circ} 38' 50''$ E. Pop. 9,544 in 1861. As a town, Beaucaire is not remarkable, and has no public building worth notice; but its command of internal communication, afforded by the railway from Lyons to Marseilles, with the branch line to Cette, as well as the navigation by the Rhone and the canal of Beaucaire, which unites with the canal *du Midi*, make it favourably situated for an *entrepôt*. Its chief consequence and celebrity is derived from its fair, which commences on the 22nd, and finishes on the 28th July. This was formerly the greatest of European fairs, and though much fallen off, it is still attended by a vast concourse of people, not from France only, but also from Germany, Switzerland, Italy, Spain, and the Levant. Almost every sort of article, whether of convenience or luxury, is then to be met with in the town. It is said that the influx of visitors still amounts to nearly 100,000, and that the business done exceeds 150 millions of francs; but both these estimates are probably exaggerated. The accommodations in the town and at Tarascon, not being nearly sufficient for the great and sudden influx of strangers to the fair, large numbers of them are lodged in tents and other temporary erections in the meadow where the fair is held, along the Rhone. All bills due at this fair are presented on the 27th, and protested on the 28th. A tribunal, instituted for the purpose, takes cognisance of, and immediately settles, all disputes that grow out of transactions at the fair. Detachments from the garrisons of Nîmes and Tarascon assist in keeping order, and everything is conducted with the greatest regularity. The prefect of the *dép.* is always present, and entertains the leading merchants.

The communication between Beaucaire and Tarascon used to be kept up by a bridge of boats, but this has been replaced by a suspension bridge of a total length of 441 mètres, or nearly a mile. The bridge is alike substantial and handsome. There is at Beaucaire a public library, of 14,000 volumes.

BEAUFORT, or **BEAUFORT-EN-VALLE**, a town of France, *dép.* Maine et Loire, near the Couesnon, 16 m. E. Angers. Pop. 5,260 in 1861. It has a college, or high school, two workhouses, a large market-place, and manufactures of canvas and coarse linen.

BEAUFORT, a small sea-port town of the U. States, S. Carolina, on Port Royal Island, 75 m. S. Charleston, and 58 m. N. Savannah; lat. $32^{\circ} 25' N.$, long. $80^{\circ} 32' W.$ Pop. 2,500 in 1860. It has a deep and spacious, but little frequented, harbour. This also is the name of an inconsiderable sea-port town of N. Carolina, on Gore Sound. Its harbour admits vessels drawing 12 ft. water.

BEAUFORT, a town of France, *dép.* Savoy, near the Doron, 80 m. ENE. Chambéry. Pop. 2,750 in 1861. In the neighbourhood are extensive mines

of coal, copper, and lead, the latter containing silver.

BEAUGENCY, a town of France, *dép.* Loiret, cap. cant., on the right bank of the Loire, 16 m. SW. Orleans, on the railway from Paris to Tours. Pop. 5,052 in 1861. This is a very ancient town, and occupies a conspicuous place in the history of the foreign, civil, and religious wars of France. It fell successively into the hands of the Huns, Saxons, Normans, and English; but it suffered most from the religious wars of the 16th century. It was surrounded by walls, flanked with towers and bastions, part of which are still standing, the rest having been pulled down, and converted into promenades. It was also defended by a castle, of which nothing now remains but a massive tower, 115 ft. high. It has a bridge over the Loire of 22 arches; with fabrics of cloth, distilleries, and tanneries, and a considerable trade in wine, corn, and wool.

BEAUJEU, a town of France, *dép.* Rhone, cap. cant., on the Ardère, 80 m. NNW. Lyons. Pop. 3,998 in 1861. It is situated at the foot of a hill, on the top of which are the ruins of an old castle. It has manufactures of casks and lanterns, and is the entrepôt of all the products exchanged between the Saone and the Loiret.

BEAULIEU, a town of France, *dép.* Correze, cap. cant., on the Dordogne, 22 m. S. Tulle. Pop. 2,380 in 1861. It has some trade in wine. Beaulieu is the name of 24 other small towns in France.

BEAULY, a sea-port and village of Scotland, co. Inverness, on the N. side of the Beaully Water, where it falls into the bottom of the Beaully Frith, 9 m. W. Inverness. Pop. 917 in 1861, of whom 434 males and 483 females. The place is finely situated. The Beaully is here crossed by a bridge of five arches, and the village has some trade.

BEAUMARIS, a bor. and sea-port town of N. Wales, co. Anglesey, hund. Dendaeathwy, near the N. entrance to the Menai Strait, in Beaumaris Bay, 4 m. NNE. the Menai bridge; lat. 58° 17' N., long. 4° 5' W. Pop. of borough, 2,558 in 1861. It is finely situated near the edge of the bay, in a low level tract, which, however, commands some of the finest views in Wales. It is neatly built. The castle, erected by Edward I., though in a dilapidated state, is a fine ruin: it is surrounded by a fosse, flanked by twelve circular bastions. The building is nearly quadrangular, with a round tower at each angle. The par. church is at Llandefan, but there is a chapel of ease in the town, in which service is performed in English and Welsh. There are four chapels, belonging to Calvinists, Independents, Baptists, and Wesleyans, all well attended; a free grammar-school, well endowed, the head master of which must be of the Established Church and M.A.; a national school, for 240 boys and girls, in the town, and another in Llandagvan (endowed by the late Duchess of Kent), for 60 scholars: each of the religious sects have also large Sunday schools; and in all the English language is now taught. The town-hall is a commodious modern structure, with rooms for the bor. business, courts of justice, and a spacious ball-room. There are also a co. hall, a co. prison, and a custom-house. The weekly markets are held on Sat. and Wed.: annual fairs on Feb. 13, Holy Thurs., Sept. 19, Dec. 19, all for cattle. No particular manufacture or trade is carried on in the town. There is good anchorage in the bay, opposite the town, in 7 fathoms stiff clay; or vessels may be grounded near it on soft mud. The W. passage may be entered at any time of tide. Vessels often resort thither for security in hard gales; and occasionally some are repaired on the beach. In the year 1863, there entered 2,220

vessels, of 291,649 tons, and there cleared 629 vessels, of 135,998 tons. About one-half of the shipping consisted of steamers. Beaumaris is the chief port of the island and of the Menai Strait, and comprises in its jurisdiction those of Conway, Amlwch, Holyhead, Pwllheli, Barmouth, and Caernarvon. What trade the town itself possesses is chiefly coastwise. There is a steam-packet communication between Beaumaris, Liverpool, and Dublin, but the latter has almost ceased since the erection of the great Menai bridge, and the establishment of a more direct mail communication via Holyhead. The pier, quays, and warehouses, are protected by extensive sea walls. The place derives considerable advantage from visitors from Liverpool, who resort to it for sea-bathing, in which respect it can scarcely be surpassed. There are many bathing machines, and the fine firm sands of the beach form a delightful promenade, from whence, as well as from the green, a magnificent prospect presents itself. Baron Hill, the seat of the Bulkeley family, is on an eminence near the town, and its fine grounds slope towards it: there are several other good mansions in the neighbourhood. The hotels and inns in the town are excellent. There is a fine road from the town to the Menai bridge ($\frac{1}{4}$ m.), which also commands splendid views.

Since the Municipal Reform Act, the limits of the bor. have been restricted so as to comprise only the town and its immediate neighbourhood. The ancient bounds included its own parish, and parts of six others, for an extent of upwards of 10 m.: it has now four aldermen and twelve councillors. Its governing charter, previously, was granted in the 4th of Eliz.; this quotes, by *insperimus*, ten others, the earliest being in 24 Edw. I. The government was vested in a self-elective body, consisting of a mayor, 2 bailiffs, and 21 burgesses, who had the privilege of returning 1 mem. to the H. of C. The Reform Act divested them of this privilege, and made Beaumaris the principal of 6 contributory bors., which jointly return 1 mem. to the H. of C. The Beaumaris district, comprising Amlwch, Holyhead, and Llangefni had 547 registered electors in 1864, the constituency being formed by a few members of the old corporation and 100 householders. The 'influence' is divided between the Marquis of Anglesey and the Stanley and Bulkeley families. The corporation revenues are derived from rents of lands, tenements, oyster-beds, and harbour dues: they average about 556*l.* The town derives its origin from Edw. I., who, after founding the castles of Caernarvon and Conway, built that of Beaumaris, in 1295.

BEAUMONT-DE-LOMAGNE, a town of France, *dép.* Tarn et Garonne, cap. cant., on the Gimone, 21 m. SW. Montauban. Pop. 4,570 in 1861. This little town is alike remarkable by the regularity of its plan, the neatness of its houses, and the beauty and fertility of its territory. It is built round a spacious square, and its streets, which are broad and straight, intersect each other at right angles. It has fabrics of coarse cloth, hats and tanneries.

BEAUMONT-LE-VICOMTE, or **BEAUMONT-SUR-SARTHE**, a town of France, *dép.* Sarthe, cap. cant., on the Sarthe, 17 m. N. Mans. Pop. 2,184 in 1861. It has manufactures of drug-gates and other descriptions of woollen cloth; and has a considerable trade in corn and fat geese. The town has a station on the line of railway from Mans to Caen and Cherbourg. There is a fine promenade on an adjoining hill. Beaumont, either singly or with some addition, is the name of a vast number of small towns in France. The most considerable is **BEAUMONT SUR OISE**, *dép.* Seine et

Oise, 21 m. N. Paris, on the Northern of France railway. Pop. 2,431 in 1861. It stands on a hill, and has glass-works, and a manufactory of salt-petre.

BEAUNE, a town of France, dép. Côte d'Or, cap. arrond., in an agreeable country, at the foot of a hill which produces excellent wine, on the small river Bouzeoise, 20 m. SSW. Dijon. Pop. 10,719 in 1861. There is a station on the railway from Dijon to Lyon. The town is well built; streets broad, straight, and watered by the fountain de l'Aigue. The church of Notre Dame is handsome; but the finest building in the town is the magnificent hospital, founded in 1444, and endowed by Nicholas Rollin, chancellor to Philip Duke of Burgundy. Beaune is the seat of tribunals of commerce and primary jurisdiction; has a communal college, and a public library with above 10,000 volumes. Its ramparts, which are planted, afford fine promenades; and it has an extensive public garden, public baths, and a theatre. It produces cloth, cutlery, leather, vinegar, casks; and has dye-works and large nurseries of fruit trees. But the principal celebrity of Beaune is derived from its being the centre of the trade in the wine that bears its name; that is, in the best of the second growths of Burgundy.

BEAUNE-LA-ROLANDE, a town of France, dép. Loiret, cap. cant., 16 m. W. by N. Montargis. Pop. 2,095 in 1861.

BEAUPREAU, a town of France, dép. Maine et Loire, cap. arrond., on the Evre, 28 m. SW. Angers. Pop. 3,821 in 1861. It has a court of original jurisdiction, with dye-works and tanneries. In 1793 the Vendéans obtained, in the vicinity of this town, a complete victory over the republicans under General Ligonier.

BEAUSSET, a town of France, dép. Var, cap. cant., 9 m. NW. Toulon. Pop. 2,992 in 1861. It has fabrics of hats and tiles, with tanneries, a glass-work, and a considerable trade in oil, wine, spirits, soap, and coarse cloth and linen.

BEAUVAIS, a town of France, cap. dép. Oise, on the Thérain, where it is joined by the Avelon, in a valley surrounded by wooded hills, 42 m. N. by W. Paris; lat. 49° 26' 7" N., long. 2° 5' E., on a branch line of the railway from Paris to Boulogne. Pop. 15,364 in 1861. This is a very ancient city, and has undergone many vicissitudes. So late as 1805 it was surrounded by ramparts and fossés, but these have been since partly levelled, and converted into agreeable promenades. It is ill built, the houses consisting, for the most part, of wood, clay, and mortar: the streets are not narrow, nor dirty, but they are badly planned. Had the cathedral been finished on its original plan, it would have been the finest Gothic edifice in France, but the choir only is complete. It contains a fine monument of Cardinal de Janson, bishop of Beauvais. The church of St. Stephen, erected in 997, is celebrated for its fine painted glass windows. The episcopal palace, now the hôtel de préfet, is very large and ancient, and has the appearance of a Gothic castle. Previously to the Revolution there were in Beauvais, besides the cathedral, 6 collegiate churches, 12 parish ditto, with 6 convents for men and 2 for women. Now, however, the convents have ceased to exist; and all the churches, save two, and two chapels of ease, have either been pulled down or applied to other purposes. The other public buildings are the college, theatre, hôtel de Dieu, with 40 beds, and an Imperial manufactory of tapestry. It is the seat of a bishopric, of courts of *première instance*, and, besides the college has a diocesan seminary, with 145 pupils, gratuitous courses of geometry and mechanics applied to the arts, and a public library with 7,500

volumes. Beauvais has considerable advantages, in the command of water-power, and in the cheapness of turf fuel for the prosecution of manufactures; but though those carried on in the town be considerable, they are not flourishing. The principal is that of a sort of flannel (*molleton*); at present, however, it is said to be in a retrograde condition, owing to the want of capital and enterprise in those engaged in it. A good deal of cloth is made of a medium quality. There is also a royal manufactory of tapestry, established in 1664; but these establishments are of little or no use, except as works of art, their products being too dear to come into general demand. The fabrics of printed cottons are much fallen off; but the art of dyeing is still successfully practised, and there are extensive bleach-fields, with flour-mills, and tanneries. The trade of Beauvais is extensive. Large quantities of corn, and of linen, called *demi Hollande*, manufactured in its vicinity, are disposed of in its markets.

Beauvais existed under the Romans, and has since been held by the Normans and the English, from the latter of whom it was wrested in the 15th century. In 1477 it was besieged by Charles the Bold, duke of Burgundy, and though without a garrison, the citizens, led on by the famous heroine, Jeanne Hachette, repelled the enemy. An annual festival is still celebrated in honour of this event.

BEAUVOIR, or BEAUVOIS-SUR-MER, a town of France, dép. Vendée, cap. cant., opposite to the Island of Noirmutier, about 3 m. from the sea, with which it is united by a canal. Pop. 2,616 in 1861. Vessels of from sixty to eighty tons come up to the town, to load with corn and salt, produced in the salt marshes in the vicinity. The sea, in ancient times, came up to the walls of the town. It was formerly fortified, and had a castle, which was besieged by Henry IV. in 1588, who having fallen into an ambuscade, was involved in the greatest danger.

BECCELES, a bor., par., and town of England, NE. border, co. Suffolk, on the Waveney, 95 m. NE. London, 13 m. SE. Yarmouth, on the Great Eastern railway, formerly the Eastern Counties. Pop. 3,493 in 1821; 4,086 in 1841; and 4,226 in 1861. The town is well built on the S. side of the river, and consists of several streets, diverging from a central area where the market is held. The church, with a modern detached steeple, is an ancient structure on the edge of a cliff, overlooking the level pastures through which the Waveney flows. There are two dissenting chapels; a free school, founded under James I., for 100 boys; a grammar-school, endowed in 1713, which has ten exhib. to Emanuel Coll., Cambr.; a national school; a new town-hall, theatre, and assembly-rooms. The weekly-market is on Saturday. Annual fairs are held on Whit-Monday, June 29, and Oct. 2; the last being a horse fair. There are no manufactures, but malting is carried on to a considerable extent. The town has been rendered accessible to vessels of 100 tons burden, partly by deepening the river Waveney, and partly by the aid of the Norwich and Lowestoft navigation. It has, in consequence, some coasting trade, in the importation of coals, timber, &c., and in the exportation of corn and other produce. The shipping belonging to the trade is inconsiderable, and is included in that of Yarmouth, of which it is reckoned an out-port. The railway from Beccles to Bungay, opened March 2, 1863, has given increased facilities of commercial intercourse.

Since the Municipal Reform Act the limits of the bor. have been contracted so as to include only the part on which the town stands, an area of 350 acres. It was previously co-extensive with

the parish, and was first incorporated in 84 Henry VIII., when Beccles Fen, consisting of 1,400 acres of pasture, was granted. The governing charter was granted in 2 James I. The privilege of depasturing stock on the fen extends to every householder; and, of the original grant, 940 acres remain unalienated. The corporation also possess an estate, called the Hospital Hill, and a lease of the tolls of markets and fairs, &c.; making the average amount of their annual revenue upwards of 1,800*l*. Their business is transacted in the town-hall, where quarterly sessions for the neighbourhood are also held by the co-magistrates.

BEDALE, a market town and par. of England, N. R., co. York, on an affluent of the Swale, 34 m. NNW. York. Area of par. 7,070 acres. Pop. of par. 2,860 in 1861; of town, 1,157. The town is well built, and the church is a large and handsome edifice, constructed in the reign of Edward III. The living, which is a rectory, is one of the best in the county, having been worth, at an average of the three years ending with 1831, 2,000*l*. a year. It has a grammar-school, and some charities. The country round is very fertile, and it has a well-supplied market.

BEDARIEUX, a town of France, dép. Herault, cap. cant., on the Orb, 20 m. N. Beziers. Pop. 9,087 in 1861. It is neat, and well built, and is one of the most industrious towns of its size in France. It has manufactures of fine and coarse cloth, of stuffs, of silk and wool, woollen and cotton stockings, hats, oil, paper, and soap, with dye-works and tanneries. It has a station on the branch line of railway from Graissessac to Beziers, which connects it with the general railway system of the country.

BEDFORD, an inland co. of England, having N. and NW., Huntingdon and Northampton shires; E., Huntingdon and Cambridge; S., Hertford; and W., Buckingham and Northampton. Area, 295,582 acres, of which about 250,000 are supposed to be arable, meadow and pasture. Surface diversified with low hills, valleys, and extensive level tracts. On the S., the Chiltern hills rise to a considerable elevation. Principal rivers, Ouse and Ivel. It has every variety of soil, from the stiffest clay to the lightest sand. In the vale of Bedford, the soil is clayey; the sandy soil is well suited for the turnip husbandry and garden culture; and, on the whole, the co. may be said to be of about an average degree of fertility. It is chiefly under tillage, which is in a medium state of improvement—not so far advanced as in some counties, nor so backward as in others. Wheat and beans are the principal produce of the clays, and turnips and barley of the sandy soils. Large quantities of vegetables are raised in various places, for the supply of the markets of London and Cambridge. Cattle of a mixed breed. Stock of sheep estimated at about 200,000. There are some large estates; but property is notwithstanding a good deal subdivided. Average size of farms, 150 acres; average rent of land, in 1842–43, 25*s*. 5*d*. an acre. Fullers' earth is dug up in considerable quantities in the vicinity of Woburn. Excellent straw platt for ladies' hats is made at Dunstable: the manufacture of pillow lace, once widely diffused through the country, has much declined, and there is no other manufacture of any importance. Principal towns, Bedford, Biggleswade, Leighton-Buzzard, and Luton. Bedfordshire contains 9 hundreds, and 123 parishes; and in 1841 had 21,235 inhab. houses, and 107,936 inhabs. The census returns of 1861 showed a moderate increase of population, there being 27,419 inhab. houses, and a pop. of 135,265, of whom 63,780 males and 71,485 females. The co. returns two

members to the H. of C. The constituency consisted, in 1865, of 4,701 registered electors. Bedfordshire was part of the Saxon kingdom of Mercia. Watling Street may be traced in the direction of the route from Dunstable to Stratford.

BEDFORD, a bor. and town of England, cap. co. Bedford, on the Ouse, 45 m. NNW. London, on the Midland railway. Pop. 5,466 in 1821; 9,178 in 1841; 11,693 in 1851; and 18,412 in 1861. Number of inhabited houses 2,307 in 1851, and 2,754 in 1861. The town is situated in a pleasant vale, on both sides the river, which is spanned by a handsome five-arched stone bridge, built in 1810. It consists chiefly of a wide street, between 1 and 2 m. long, intersected by several smaller streets at right angles. The houses on the S. side of the river are handsome modern structures; the rest, an intermixture of ancient and modern, but mostly well built and neat; the whole is paved, lighted by gas, and amply supplied with water. There are five churches: St. Peter's, the most ancient, has a Norman porch and a fine tower; St. John's, St. Mary's, and St. Paul's, are all in the Gothic style, with good towers. The Baptists, Independents, Wesleyans, Jews, and Moravians, have each places of worship; the last have also a female establishment. There is a flourishing grammar-school, founded in 1556, which educates between 70 and 80 of the town boys free; and about the same number who board with the head master, and pay: it has 8 exhib., of 80*l*. a year each, to Oxford, Cambridge, and Dublin: another free school, founded in 1727, for 10 boys and 10 girls; and a blue-coat school, founded in 1760, for clothing and educating 25 boys: this last is now united with the national school, but the endowment is kept distinct. The charities, compared with the size of the town, exceed in amount those of any other in the kingdom. The principal charity consists of property in Bedford and London, left by Sir William Harpur, who was born in the former, and became lord mayor of the latter. The trustees are—the lord-lieut.; the members for the co. and the bor.; the first and second masters of the grammar-school; eighteen persons chosen by the inhabitants of Bedford; and the corporation; the last being, in fact, virtually its managers. The revenue is distributed amongst the free grammar, English, national, and commercial schools; 58 almshouses; and in marriage portions, apprentice fees, premiums, and donations amongst the poor. Besides this, the principal charity, there is the hospital of St. John, founded in the reign of Edward II., for a master and 10 poor brethren; and 8 almshouses, endowed in 1679, for decayed single folks of either sex. There is a secessions-house, a theatre, and a public library; reading, lecture, billiard, and assembly-rooms, all in one handsome structure, recently built. There is also a new building in the Tudor style, erected by the trustees of the Bedford charity, with rooms for the English and national schools. The co. gaol and house of correction are at the N. entrance to the town. The co. lunatic asylum, and the co. infirmary, are also near the town, on the Amphilh road: the infirmary, a large fine building, was erected in 1833, chiefly from funds bequeathed by the late Samuel Whitbread, Esq.; but the Marquis of Tavistock subscribed 2,000*l*. towards its completion. The penitentiary (a large estab.) on the Kettering road. The chief market is held on Saturday: the weekly sale of wheat averages about 600 quarters. There is a smaller market on Monday, chiefly for pigs. Annual fairs are held first Tuesday in Lent, April 21, July 5, Aug. 21, Oct. 12, Nov. 17, and Dec. 19. That in Oct. is called the statute fair, and is the most important: the

others are cattle fairs. The Ouse is navigable from hence to Lynn Regis, and a considerable traffic is carried on between the two towns, chiefly in malt, coal, timber, and iron. Lace-making formerly employed a great many of the women and children, and now straw-plaiting. There are no other manufactures. The town has great facilities for trade, being on the crossing of two great lines of railway, the Midland, and a branch of the great London and North Western line. The bor. is co-extensive with the five parishes of Sta. Peter, Paul, Cuthbert, Mary, and John; the area of the whole is 2,164 acres, the town being in the midst, with a fertile belt of land all round. It is divided into two wards, and governed by a mayor, six aldermen, and eighteen councillors. The annual revenue of the corporation, derived from lands and houses in the bor., amounts to about 1,500*l.* a year. There are local courts of petty and quarter sessions, and of pleas. The co. sessions and assizes are also held in the town.

Under the Poor Law Amendment Act Bedford is the union town for 44 parishes. It is represented in the union by six guardians. The bor. has returned two members to the H. of C. since the 23 Edw. I. Previously to the Reform Act they were elected by the burgesses and freemen, both bodies consisting of an indefinite number. In 1864, the constituency consisted of 986 registered electors, of whom 48 remaining 'old freemen,' and 210 'pot-wallopers.' Bedford is also the principal polling town of the co. A strong castle was built here soon after the Conquest, which in subsequent reigns endured many sieges; part of its entrenchments may still be traced. John Bunyan was imprisoned in Bedford gaol from 1660 till 1672; and in it he wrote the first portion of the *Pilgrim's Progress*. He subsequently continued, for the most part, to reside in the town till his demise in 1688. The Russell family derive their title of duke from the town.

BEDFORD LEVEL, a distr. on the E. coast of England, comprising the greater portion of a flat marshy tract, called the Fens, which extends into six counties, and is bounded on the NE. by that great inlet of the German Ocean, known as the Wash; and in all other directions by ranges of hills that enclose it in the form of an ellipse. It includes about 450,000 acres of this fen country, and extends N. and S., from Tydd St. Giles to Milton, 33 m.; and from Peterborough to Brandon, in an E. and W. direction, 40 m. Its boundaries are irregular; but, commencing from Peterborough northerly, the line extends by Peakirk, Crowland, Whaplode Drove, Parson Drove, Guyhim, Salter's Lode, and Methwold, to Brandon; and thence, on the S. side, by Mildenhall, Milton, Earith, Ramsey, Wood Walton, and Xaxley, to Peterborough. This comprises the whole Isle of Ely (the N. div. of Cambridgeshire), and a few parishes in the S. division of that county; 80,000 acres of Suffolk; 63,000 of Norfolk; 57,000 of Huntingdon; between 7,000 and 8,000 of Northamptonshire; and the SE. portion of Lincolnshire. The whole tract appears to have been gradually formed, by sedimentary depositions, in an inlet of the ocean, brought thither by the tidal currents, from the *débris* of the coast, and by torrents from the surrounding uplands. Eight principal rivers, or drains, originally traversed the level, three of which had their outfalls in the sea: the Welland, in Foss Dyke Wash; the Nene, in the Sutton Wash Way; and the Ouse, at Lynn Regis: of the rest, the Glen joined the Welland, near its outfall; the Wisbeach was a branch of the Nene; the Cam, the Larke, and the little Ouse, fell into the Great Ouse on its E.

side. The Romans appear to have been the first who formed sea embankments, and shut out the tide: subsequently to which, for a prolonged period, it was a very fertile and populous tract. The outfalls of the streams, and the depths of their channels, remained adequate to carry off the superfluous water, and effect a proper drainage, although it is a well-ascertained fact that the average level of the surface was formerly several feet lower than at present (at Spalding and Wisbeach not less than 10 ft., and at Peterborough 5 ft.). The roots of large trees, grass lying in swaths, as when first mowed, boats, and shoes of a pattern worn in Richard II.'s reign, have been discovered in various places at the depth of several feet under silt or peat. At the setting down of Skirbeck sluice, near Boston, a blacksmith's shop was found under 16 ft. of silt. These changes, therefore, were occasioned by the continued operation of the same causes to which the formation of the district is originally attributable, and which are still in ceaseless action on the coast. By shutting out the tide also, its scouring action would be greatly limited; and, consequently, the channels and outfalls of the streams would silt up and contract more rapidly, unless prevented by some artificial means. This process, however, would be gradual; and, down to the time of Stephen, we find the district round Thorney described by Henry of Huntingdon as most beautiful and fertile; whilst at the period when Francis, Earl of Bedford, and his coadjutors, undertook the drainage of the great level that is named from him, this tract, comprising 18,000 acres, was an inundated morass, with the exception of a small hillock on which the abbey stood. As early, however, as the reign of Edward I., the silting up of the rivers, and the want of adequate drainage, had become an evil of great magnitude; and as a large proportion of the fens then belonged to rich religious establishments, they made many vigorous efforts to obviate the increasing evil. But it was not till the era of Elizabeth that the drainage of the fens was viewed in its true light, that of an important national concern; and an act was passed for effecting it in the 44th of her reign. In consequence of the queen's death, nothing was attempted till 1634, when a charter was granted by Charles I. to Francis, Earl of Bedford (who had succeeded to the property of Thorney Abbey), and 13 other adventurers, who undertook to drain the level, on condition of being allowed 95,000 acres of the reclaimed land: this was partially accomplished within three years, at the cost of 100,000*l.* The principal cuts then made were, the Old Bedford River, 6 m. long, 20 ft. wide; Sam's Cut, of the same length and size; Bevil's Loam, 10 m. long, and 40 ft. wide; and Peakirk Drain, of the same length, and 17 ft. wide. The old drains were also repaired and enlarged, and four sluices formed to keep out the tide: two at Tidd, one at Wisbeach, and one at Salter's Lode. After all these works had been accomplished, at so great a cost, by the corporation, the contract was set aside, at the instigation of government, under the plea of the drains being inadequate. An offer was then made by the king to undertake the drainage of the fens, on being allowed 152,000 acres, which was 57,000 more than were to have been allotted to the corporation for effecting it. This disgraceful attempt to swindle the latter out of the advantages likely to result from their outlay and exertions was, however, defeated by the national disturbances that shortly after broke out. But the neglect consequent on the distracted state of the country rendered what had been effected in a great measure

useless, so that the district remained a waste, till 1649, when William, Earl of Bedford, had all his father's rights restored by the Convention parliament: another effort was then made, under his direction; and at the cost of 800,000*l.* the original adventurers were enabled to claim their 95,000 acres. The principal cut last made was that of the New Bedford river, 100 ft. wide, a short distance from, and running nearly parallel with, the old one. In 1668 a corporation was established by an act (15 C. II. c. 17), to provide for the maintenance and repair of the works, and to levy assessments on the proprietors for the sums necessary to defray the expenses. The corporation consists of a governor, 6 bailiffs, 20 conservators, and a commonalty, consisting of all who possess 100 acres within the level. The conservators are required to have 200, the bailiffs and governor 400 each; the officers are elected annually. Several subsequent acts have been passed to explain, alter, and amend the original one; but its main outlines have been preserved, and continue to form the basis of the government of the Fen. In 1697 the level was divided into three parts—the N., Middle, and S. levels: the first comprises the lands between the Welland and the Nene; the second, those between the Nene and Old Bedford rivers; the third extends from Old Bedford river to the southern limits.

In 1795, an act passed for improving the outfall of the Ouse, and for making a cut from Eaubrink to Lynn; this was not effected till 1820, and has proved highly beneficial. To enumerate the various cuts and drains that have been made at various times would be tedious and useless. The water, in the rivers and great artificial cuts, is mostly above the level of the lands they pass through, and is confined by embankments: the water, therefore, collected in the smaller land-drains and ditches, has to be lifted into these main channels by pumps, which are mostly worked by windmills, but in a few instances by steam-engines. The most recent, and by far the most efficient, improvement that has been made in the drainage and navigation of the Fens, has been accomplished under acts passed in 1827 and 1829, 'for improving the outfall of the Nene; for draining the lands which discharge their waters into the Wisbeach river; and for improving the navigation of that river, from Kindersley cut to the sea; and embanking the salt marshes.' A new tidal channel was cut for the discharge of the Nene: this begins about 6 m. below Wisbeach, and extends to Crabhole (6½ m.); thence the river has shaped for itself a natural channel (1½ m. in length) to the Wash. The surface width of the new cut varies from 200 to 300 ft.; its depth, from the surface of the adjacent land to the bed of the stream, is 24 ft. throughout: the spring tides rise about 22 ft. at the end nearest the sea, and 18 ft. where it joins Kindersley cut. A bridge has been thrown over this channel at Sutton Wash, 8 m. below Wisbeach, and an embankment made across the sands, forming a new and safe line of road between Norfolk and Lincolnshire. Between 7,000 and 8,000 acres of marsh have been reclaimed from the sea, and brought to a cultivated state by these operations. An uninterrupted communication with the sea from Wisbeach (the emporium of a large district) has been effected for small vessels at all times of tide, and in any weather; and at springs, for large vessels; where, previously, those drawing 6 ft. could only reach with a spring tide and favourable wind. But the most important result is the improved drainage that has been effected. In this new channel the tide ebbs nearly 10 ft.

lower than in the old one, immediately opposite the S. Holland and N. Level sluices, which are the outlets for the water of about 100,000 acres of fen-land. A new main drain and sluice has been formed, to take the proper advantage of this; and also several minor drains. The Nene outfall was finished in 1835, at a cost of 200,000*l.* The drainage of the N. Level, under an act obtained in 1830, cost 150,000*l.* Following the example of his ancestors, the Duke of Bedford has been the chief supporter of both those undertakings, which have rendered pumping, either by wind or steam, unnecessary in the N. Level; and proved, that by due skill and exertion, all the waters of this important tract might have an adequate outfall created for them. The sale of the agricultural produce of the district has been greatly facilitated by the construction of several lines of railway. The longest of these, the line from Peterborough to Boston, with a branch to Spalding, was made by the Great Northern company, acting under parliamentary powers obtained in 1848. A new line of railway, right across the Bedford Level, from Peterborough to Thorney, Wisbeach and Sutton, was opened in 1865.

BEDNORE, a town of Hindostan, cap. of a district of Mysore, lat. 13° 50' N.; long. 75° 6' E.; 150 m. NW. Seringapatam, 360 m. WNW. Madras. It is situated on one of the best roads in the W. Ghats, which leads from Mangalore. When Hyder Ali took it in 1763, it was said to be 8 m. in circ.: it afforded him considerable plunder. In 1783 it was taken by the English; but in the following year the troops in possession were either destroyed or dislodged by Tippee. At his death it had but 1,500 houses; some additions have, however, been made to it since. Its trade is increasing, but it has no manufactures.

BEDWIN (GREAT), a bor. and par. of England, co. Wilts, hund. Kindwardstone, 64 m. W. by S. London. Area of par. 10,420 acres. Pop. of par. 2,191 in 1831, and 2,263 in 1861. The town, which is old, stands on an elevated site, on a chalky soil. Its church exhibits specimens of the style of various eras (from the Norman to Henry VIII.), and is a cruciform structure, with a fine embattled tower rising from the intersection. The market-place is in the principal street; but the market has long been disused. Fairs are held, April 23, and July 26. The place is in the jurisdiction of the county magistrates, being merely a nominal borough, with a portreeve, bailiffs, &c., elected at the manor court leet. It sent two mem. to the parliaments of Edward I.; thence, with some interruptions, to nine Henry V., and thence, continuously, till the Reform Act, by which it was disfranchised. There is a fine relic of Saxon earth-work, called Chisbury Castle, about a mile N.E. of the town; it encloses an area of about fifteen acres. Some Roman remains have also been found about half a mile SW. of the town. Bedwin has a station on the Hungerford branch of the Great Western railway, and the Kennet and Avon Canal passes through the parish, and furnishes coals. The living is a vicarage, with the chapel of East Grafton annexed.

BEEDER, a considerable prov. of Hindostan; part of the Deccan; chiefly between lat. 17° and 20° N., having N. Aurangabad and Berar; E. Hyderabad and Gundwana; S. Hyderabad, and W. Bejapoor and Aurangabad: it is included in the nizam's domin., and divided into seven districts; viz. Calberga, Naldroog, Akulcotta, Calliany, Beeder, Naudere, and Patree. It is hilly but not mountainous, and watered by many rivers, of which the Manjera and Godavery are the chief, and is generally fertile. It is but thinly inhabited,

the Hindoos being to the Mohammedans as three to one: before the conquest by the latter it was comparatively populous. Three languages, the Telinga, Maharatta, and Canarese, are spoken in this prov., and their mutual point of limit is somewhere in the neighbourhood of the principal town, Beeder. The Bhamenee dynasty reigned here after the Moham. conquest, and other small states were subsequently founded, one of which was fixed in Beeder as the capital. The Moguls conquered it at the end of the 17th, and the nizam early in the 18th century, since which it has always been occupied by the successors of the latter.

BEEDER, a city of Hindostan, cap. of the above prov., in lat. $17^{\circ} 49' N.$, long. $77^{\circ} 46' E.$; 73 m. NW. Hyderabad, and 825 m. ESE. Bombay. It stands in an open plain, except to the E., where it rests on ground having a declivity; is fortified by a stone wall, with many round towers, and a dry ditch; has remains of some good buildings, and was formerly famous for its tutenague ware.

BEER ALSTON, a bor. of England, co. Devon, hund. Roborough, par. Beer-Ferris, 211 m. WSW. London. Pop. of the par. 2,847 in 1861; area, 5,850 acres. The village is situated between the Tavy and Tamar, 1 m. from the latter: its market and fair (granted in 1295) have been long discontinued. Silver-lead mines were opened in the reign of Edw. I. contiguous to the place, which owes what importance it possessed to them; but they are now discontinued. The bor. claimed by prescription, but did not return mem. to the H. of C. till the reign of Eliz., from which period two were regularly elected, till the passing of the Reform Act, by which it was disfranchised. In the ancient church are some curious monuments of the old families of Champernowne and Ferrers.

BEERBHOOM, or **BIRBOOM** (*Virabhum*, the land of heroes), a distr. of Hindostan, prov. Bengal, chiefly between lat. $23^{\circ} 25'$, and $24^{\circ} 25' N.$, and long. 86° and $88^{\circ} E.$; having N. the distr. Bhaugulpore; E. Moorsheadabad and Nuddea; S. Burdwan and the Jungle Mehals; and W. Ramgur. Area, 3,870 sq. m. Pop. estimated at about 1,000,000. Much of it is hilly, covered with jungle, and thinly inhabited; there are no navigable streams, which impedes its cultivation and trade; but the roads and bridges are kept in good order by government convicts, and its pop. and prosperity are increasing. Good coal and iron ore are found; the latter is worked in numerous native forges, supplied with fuel from extensive forests. The other most important products are rice, sugar, and silk. The land revenue in the year 1829-30 was 691,876 rup. Highway depredations are frequent, especially by the petty hill chiefs in the W.; the head-quarters of the judicial establishment are at Soory; the other chief towns are Nagore, Noony, and Serampore.

BEER-REGIS, or **BERE-REGIS**, a par. and market town of England, co. Dorset, hund. of same name. Pop. of par. 1,624 in 1861; of town, 1,189. The town is situated on an affluent of the Piddle, 7 m. NW. Wareham. It has a good church, with some monuments. Its annual fair, held on Woodbury Hill, 18th Sep. and three following days, used to be one of the most important in the co. for the sale of cattle and horses, and is still very considerable.

BEES (ST.) HEAD, a cape of England, being the most westerly point of the co. of Cumberland, about 3 m. SW. Whitehaven; lat. $54^{\circ} 30' 55'' N.$, long. $3^{\circ} 37' 24'' W.$ It is composed of abrupt, high, rocky cliffs; and is surmounted by a lighthouse, exhibiting a fixed light, having the lantern elevated 333 ft. above high water mark.

BEEKSOW, a town of Prussia, prov. Brandenburg, on the Spree, 18 m. SW. Frankfort on the Oder. Pop. 4,277 in 1861. The town is the seat of a court of justice, and has manufactures of cloth and linen, with breweries, tanneries, and limekilns.

BEFORT, or **BELFORT**, a town of France, dép. Haut-Rhin, cap. arrond., on the Savoureuse, 88 m. SSW. Colmar on the railway from Mulhouse to Besançon. Pop. 8,101 in 1861. When this town was ceded by Austria to France, in 1648, it was not fortified; but the importance of its position for the defence of the plain to the E. of the Vosges being obvious, works were constructed on a new principle, by Vauban, which made it a fortress of the second class. It consists of two parts—the high and low town; is well built; has large barracks, a handsome church, a college, a public library, containing 20,000 volumes, and a tribunal of *première instance*. Belfort has iron-foundries, with fabrics of iron-wire, printed calicoes, hats, paper; and is the entrepôt of a great part of the trade of France with Alsace, Lorraine, Germany, and Switzerland.

BEG (LOUGH), a small lake of Ireland, about 2 m. from the NW. corner of Lough Neagh, with which it is connected by the river Bann. (See **LOUGH NEAGH**.)

BEGARD, a town of France, dép. Côtes du Nord, cap. cant., 3 m. NW. Guingamp. Pop. 4,182 in 1861.

BEHABAN, a town of Persia, prov. Fars, on an extensive and fruitful plain, about 8 m. E. from the ruins of the ancient city of Aragian, and 130 m. WNW. Shiraz. Mr. Kinneir says that the walls are about 8 m. in circumference, and that he was informed by the governor that the pop. amounted to about 10,000. It is the residence of a Beglerbeg. (Kinneir's Persia, p. 72.)

BEHRING'S STRAIT, the channel which separates the NE. corner of Asia from the NW. corner of America, and which connects the N. Pacific with the Arctic Ocean. It is formed, in its narrowest part, by two remarkable headlands, the extreme points E. and W. of the continents to which they belong; Cape Prince of Wales, on the American coast, in lat. $65^{\circ} 46' N.$, long. $168^{\circ} 15' W.$; and East Cape, on the shore of Asia, in lat. $66^{\circ} 6' N.$, long. $169^{\circ} 38' W.$ The distance between these points is about 36 m.; but N. and S. of them, the land on both sides rapidly recedes, and, on the N. especially, it trends so sharply that the name of strait is not very applicable to any part beyond the capes in that direction. It is usual, however, to regard it as extending along Asia from Tchukotskoi Noss, in $64^{\circ} 13'$ to Serdlu Kumen in $67^{\circ} 8' N.$, which gives it a length of 400 m.: its width between Tchukotskoi Noss ($173^{\circ} 24' W.$) and Cape Rodney, on the opposite shore of America ($166^{\circ} 3' W.$), is about 250 m.

The land on both sides is considerably indented, the Asiatic shore especially exhibiting several extensive and commodious bays, as St. Lawrence, Metchickma, and others; but the country is not of a kind to tempt navigators to its coasts, which are generally steep and rocky, very bare of wood, and not at all abundant in other vegetation. The water has an equal but not great depth. Cook remarks, that on both sides of the strait the soundings are the same, at the same distance from the shore; that near land, he never found more than 23 fathoms; and by his chart it appears that he nowhere found more than 30. Shoal water appears to be principally confined to the bays and inlets on the American side. There are a few small islands scattered here and there along the strait; and one of some size, St. Lawrence

or Clerke's Island, lies at a short distance S. from its entrance. The temperature is low; by the end of August the thermometer sinks to the freezing point, and N. of the two capes there is always a store of ice which the heat of summer is quite powerless to disperse. The strait is frozen over every winter. Fogs and hazy weather are very common, almost perpetual; for though the summer sun is above the horizon for a very considerable time, yet he seldom shines for more than a few hours, and often is not seen for several days in succession. The animals on both sides the strait are similar; they consist of the common fur-bearing tribes and birds of the arctic regions, but not in great numbers. A corresponding similarity does not exist in the human race on each side of the channel; the Tchutski (Asiatics) are long-faced, stout, and well made; while the Americans are of low stature, with round chubby faces, and high cheek bones. The Asiatics, also, appear to possess more arts, to be more refined—in short, to be of a superior race. On both shores, the principal occupations are hunting and fishing, for the latter of which the waters are well fitted, being much more abundant in life than the barren land. Whales frequent the strait, and the walrus (morse) seems to be more abundant here than in any other part of the world. The flesh of the latter creature is fit for food (Cook's Third Voyage, ii. p. 457), and it appears probable that the natives of the coasts feed also upon the whale.

In 1728, Vitus Behring, a German in the service of the Empress Catherine, sailed from Kamtschatka, in the view of discovering whether Asia were or were not terminated by the sea towards the NE. He reached the Serdre Kumen, and laid down the Asiatic coast in a manner to call forth the unqualified approbation of Cook. In a second voyage to explore the American shore, he unfortunately perished under circumstances of great misery. Behring may be considered as having settled the fact of the existence of this strait, and therefore it is most properly called by his name; but the complete discovery was reserved for Cook, who in 1778 surveyed the whole length of both coasts, with a precision and accuracy which left nothing for after voyagers to perform, and which has made the geography of this remote and barbarous region as precise as that of our own country. It may, perhaps, be interesting to know, that a very old *Japanese* map of the world, now in the British Museum, lays down the leading features of this strait with surprising accuracy. (Russian Voyages and Discoveries, p. 48; Cook's Third Voyage, p. 488, 467-475, &c.; iii. p. 242.)

BEHRING'S ISLAND, a small island in the Pacific; lat. 55° N., long. 165½° E., the most W. of the Aleutian chain. It is rocky and desolate, without inhabitants, and only remarkable as the place where the great navigator, whose name it bears, breathed his last. After suffering great hardships in his attempt to explore the coast of America (see last article), the scurvy broke out among his men, and in the attempt to return to Kamtschatka, he was wrecked on this barren rock, where was neither food, except marine animals, nor covering, except fine sand, in which the captain and crew attempted to screen themselves from the effect of a Northern winter, and in which the former died worn out by disease and disappointment, Dec. 8, 1741. (Russian Voy. and Discov. p. 97.)

BEILA, or BELA, an inland town of Beloochistan, cap. prov. Lus, on an elevated rock on the N. bank of the Poorally, lat. 26° 11' N., long. 66° 36' E., and 50 m. N. of the Indian Ocean. It

contains about 2,000 houses, 800 of which belong to Hindoos. The streets are narrow, but the bazar is neat, and the town generally clean and tidy; on the NW. it is protected by a tolerably good mud wall; elsewhere it has no external defence. (Pottinger's Travels, p. 19.)

BEILAN, a town of Syria, near the sea, 9 m. SE. Iskenderoon; lat. 36° 29' 30" N., long. 36° 17' E. Pop. estimated at 5,000. The houses are of stone, with flat roofs, occupy both sides of a mountain gorge, and are so disposed that the terraces of the lower buildings serve as streets to those above. A large stream rushes through the middle of the town, and in winter cascades pour down on every side. A considerable number of aqueducts, some of them very ancient, conduct this abundant supply of water to the houses of the inhabitants.

Beilan gives name to the mountains among which it stands (an. *Amanus*), the SW. termination of the Taurus. The summits of these mountains are usually snow-topped; hence the winter cold is very severe, but the summer climate delightful, and, at all times, the atmosphere is pure and salubrious.

The town was formerly much frequented by the inhabitants (especially Europeans) of Aleppo and Iskenderoon, as a refuge from the burning heats and unwholesome vapours of the plains during the summer. The decline of these places has affected Beilan, but its natural advantages have drawn to it a great many wealthy Turks, who find a further inducement to reside here, in the fact, that, though nominally a part of the pachalic of Aleppo, the town is really governed by a sheikh, elected by the inhabitants from among themselves. In 1832 Beilan was the scene of a decisive battle between Ibrahim and Hussein, pachas. (Volney, ii. 135, 136; Robinson, ii. 279-281.)

BEJA (an. *Par Julia*), a town of Portugal, prov. Alentejo, cap. Comarca, 85 m. SE. Lisbon. Pop. 6,275 in 1858. The town is surrounded by walls, flanked with 40 towers, and defended by a castle. It has a cathedral, a rich hospital, a Latin school, a fabric of earthenware and tanneries.

BEJAPPOOR, a large prov. of the Deccan, Hindostan, comprised partly in the British dom, and partly in those of the rajah of Sattarah and the Nizam, and containing the Portuguese territ. of Goa. It extends from 15° to 18° N. lat., and between 73° and 78° E. long., having N. prov. Aurungabad; E. the same prov. and that of Hyderabad; S. the Toombuddra and Wurla rivers, and distr. of Canara; and W. the Indian Ocean: length 320 m., by 200 m. average breadth.

Its W. districts are very mountainous, being intersected by the W. Ghauts; and there are numerous strong hill positions on isolated eminences, with perpendicular sides, often crowned by fortresses. The principal rivers are the Krishna or Kistnah, Toombuddra, and Beema. The Krishna is remarkable as forming the boundary between two regions in which distinct languages and species of building prevail; N. of that stream the Maharatta tongue is spoken, and the roofs of the ordinary houses are pitched and thatched; S. of its banks the Canara language prevails, and the houses are flat-roofed, and covered with mud and clay. The Ramooses, a tribe resembling the lower castes of the Maharattas, with the thievish habits of the Bheels, but more subdued and civilised, inhabit the hills joining the Ghauts in Sattarah, between Poonah on the N., Colapoor S., and Bejapoor E. They are robbers by trade, plundering the country when not kept in subordination; addicted to hunting, and neither tilling the ground, nor disposed to any fixed or laborious

employment. They do not eat beef, but are without caste.

After the dissolution of the Bhamenee empire of the Deccan, in 1489, Adil Shah established a dynasty in Bejapoor, which lasted till 1689, and was singular in conferring Hindoo titles of distinction, which, among other Mohammedan governments, were always Arabic. It next became nominally subject to Aurungzebe; then really subject to the Maharattas: after suffering all the evils of anarchy from 1804 to 1818, most part of it became, in the latter year, subject to the British; but portions of it have since that period been again entrusted to the rule of subsidiary native princes.

BEJAPOOR (*Vijayapura, the impregnable city*), the anc. cap. of the above prov. under the Adil Shah dynasty, stands near the right bank of a tributary of the Krishna, 115 m. SE. Sattarah, lat. $16^{\circ} 46' N.$, long. $75^{\circ} 47' E.$ In the beginning of the 17th century it was a city of great size and strength; but at present it consists merely of an immense number of mosques and other public buildings, many of which are in a state of partial decay; and a scanty population scattered among their ruins, and occupying miserable huts. 'As the traveller approaches the city from the N., the great dome of Mahomed Shah's tomb is discerned from the village of Kunnoor, 14 m. distant. A nearer view gives the idea of a splendid and populous metropolis, from the innumerable domes and spires and buildings which meet the eye.' 'On entering, the illusion vanishes; jungle has shot up in the partly obliterated streets, and the visitor may now lose himself in the solitude of ruins, where crowds were formerly the only impediments to a free passage.' It comprises an outer fort, or old city, and an inner fort or citadel, partly enclosed by, and lying E. of, the former: the space between the walls of these two is said to have been sufficient for the encampment, in 1689, of 15,000 of Aurungzebe's cavalry. The walls of the outer fort are 8 m. in circ., and but little dilapidated, though the outworks be in great part destroyed; the inner fort, on the contrary, is fast crumbling away. The old city (besides a stone bazar, its only frequented spot) contains the mausoleum and mosque of Ibrahim Adil Shah, built on a basement 130 yds. long, by 52 yds. broad, covered by an immense dome raised on arches, and so elegant as to bear a favourable comparison with the most celebrated Mogul sepulchres of Upper Hindostan. This structure, as well as others in Bejapoor, is distinguished by rich overlapping cornices, and small minarets peculiar to this place, and terminating in a globe or pinnacle, instead of the open square turrets common in the N. of India. The inner fort, the S. wall of which bound Bejapoor in that direction, encloses the ruins of the palace, the great mosque, an imposing edifice in good repair, the celebrated mausoleum of Mahomed Shah, and a multitude of other tombs and mosques. Sir James Mackintosh, who visited this city, says, that the elaborate stonework in some of these is exquisite, and not surpassed by that of any cathedral he had ever seen. Here, also, is a low Hindoo temple, the only building of the kind in or about Bejapoor, it is in the earliest and rudest style of art, and popularly thought to have been raised by the *Panduos* (a mythological race): the military Khajous (*treasurers*) has massive stone chains cut out of solid blocks suspended from its angles. Excepting the palace, little wood having been used in the construction of the public buildings, they are in tolerable preservation. Two parallel streets (one nearly 3 m. long and 50 ft. wide, paved throughout and

regularly built), intersect the inner city, the most populous part of which adjoins the great mosque. Mud hovels are stuck up here and there among the ruins, but the space within the walls is mostly a wilderness covered with grass and shrubs. There are here some enormous brass guns, formerly belonging to the fort, one of which would require a ball weighing 2,646 lbs. For 5 m. W. of the fort the country is studded with ruins, chiefly Mohammedan tombs. (Mackintosh's Memoirs, 2nd edit. i. 463.)

BEJAR, a fortified town of Spain, prov. Salamanca, 48 m. S. Salamanca. Pop. 10,683 in 1857. The town is distinguished by its woollen manufactures, which have been much improved and extended since 1824. It is also famous, throughout Spain, for its hams. There are mineral waters in the neighbourhood. A large fair is held here on the 25th Sept. and the two following days.

BEJETSK, a town of Russia in Europe, gov. Tver, cap. district, on a lake near the Mologa, 62 m. NNE. Tver. Pop. 3,290 in 1858. It is an old town, of sombre aspect, with thirteen churches and two convents.

BEIRA, a prov. of Portugal, which see.

BEIT-EL-FAKIH (vulg. *Beetfackie*), a town of Arabia, cap. of, and giving name to, one of the six depts. of the Tehama of Yemen Proper, about 100 m. ESE. Loheia, and 90 m. N. Mocha; lat. $14^{\circ} 31' N.$, long. $43^{\circ} 28' E.$ A large and strong citadel (the residence of the dola), and a mosque, are the only public buildings. A few of the houses are of stone; but the majority are mere huts of wicker-work or clay. It is unvalled. There is no account of the pop.; but it may, perhaps, be estimated at from 7,000 to 8,000. It is the great centre of the coffee trade of Yemen; the berries are brought from the neighbouring mountains half a day's journey distant; the best in May, but the general supply is almost constant throughout the year. The ports of Loheia, Hodeida, and Mocha are supplied from hence (the last taking annually about 22,000 tons); in addition to which, caravans from El-Hedjaz, Oman, Persia, Syria, Egypt, &c., resort to the town, in which merchants of almost every trading nation are settled. All purchases are made for ready money.

Beit-el-Fakih (that is, *house of a saint*), derives its origin and name from a famous sheikh, whose tomb in this neighbourhood became an object of veneration; and to whose memory an annual festival of three days is observed, during which miracles are sometimes said to be performed. The town, which rose in consequence of pilgrimages to the tomb, gradually drew to itself the coffee trade, which before had centred in Zebid, a town about 20 m. to the S. (Niebuhr, Descr. de l'Ar. 197, 198; Voy. en Ar. i. 258-256.)

BEITH, a town of Scotland, in the co. of Ayr, 9 m. SW. Paisley. Pop. 3,420 in 1861, of whom 1,651 males and 1,769 females. The town is pleasantly situated on a rising ground; and has grown into importance since the early part of last century. It was at one time famous for its manufacture of linen; it was afterwards no less eminent in the department of silk gauze; but cotton has of late constituted its staple manufacture. It has also two flax and three corn mills. A great number of the female inhab. are engaged in tambouring and flowering muslin for the markets of Paisley and Glasgow. The line of the Glasgow, Paisley, Kilmarnock, and Ayr railway passes through the town. In the neighbourhood are quarries and mines of limestone, freestone, ironstone, and coal.

The parish of Beith, which borders on that of Dunlop, is famous for its dairies; and the one parish produces as much of what is called *Dunlop*

cheese as the other. Beith has a town house, built by subscription, a parish church, and two dissenting chapels, two branch banks, and a subscription library.

BEKES, a town of Hungary, cap. of an extensive co. of the same name, at the confluence of the Black and White Koros, 40 m. SW. Grosswardein; lat 46° 46' 16" N., long. 21° 7' 33" E. Pop. 20,155 in 1857. The town has three churches, and a considerable trade in cattle, corn, and wine, the produce of the surrounding country. There is, close to the town, a station on the railway from Pesth to Arad. The place was formerly fortified.

BELALCAZAR, a town of Spain, prov. Cordova, 48 m. NNW. Cordova. Pop. 4,420 in 1857.

BELASPOOR, an inh. town of N. Hindostan, cap. of the Calhore rajah, on the left bank of the Sutele, 1,465 ft. above the level of the sea; 180 m. N. Delhi, 300 m. NNW. Agra; lat. 31° 19' N., long. 76° 45' E. The town has about 3,000 houses; it is regularly built; the houses of stone, cemented with mortar, and the streets roughly paved. The Sutele is here about 100 yards broad, when its waters are lowest. In 1822, this town, with the rest of the Calhore territory, devolved to the British government, on the death of its previous sovereign.

BELBEIS, a town of Lower Egypt, on the most W. arm of the Nile, 29 m. NE. Cairo. It was occupied in 1798 by Napoleon, who repaired its fortifications; but they are now of little importance, the walls consisting chiefly of mud. It is ill built, has several mosques, and its pop. has been estimated at 5,000. It is supposed by D'Anville to occupy the site of the ancient Pharbætus; but the preferable opinion seems to be that the site of Pharbætus is identical with Horbegt. Belbeis is a place of considerable importance, from its situation on the road to Syria.

BELCASTRO, a town of Southern Italy, prov. Catanzaro, 15 m. NE. Catanzaro. Pop. 3,942 in 1861. The town is situated on a rock, is the seat of a bishopric, has a cathedral, a diocesan seminary, and a *mont de piété*. Large quantities of cattle are bred in its vicinity.

BELÉM, a suburb of Lisbon, which see.

BELFAST, a sea-port town and parl. bor. of Ireland, cos. Antrim and Down, prov. Ulster, at the confluence of the Lagan with Carrickfergus Bay; 102 m. N. Dublin, and 78 m. SE. Londonderry. At a very early period Belfast was known as a fortified station, and on the arrival of the English it was further secured by the erection of a castle, of which, however, no trace now exists. It owes its present importance to its commerce and manufactures, which have raised it to the first rank among the great marts of Ireland. The town comprises an area of 5,637 stat. acres, whereof 4,318 are in Antrim, and 1,319 in Down. The population has very rapidly increased in the course of half a century. It amounted to 37,277 in 1821; to 58,287 in 1831; to 75,308 in 1841; to 100,301 in 1851; and to 121,602 in 1861. The census of 1861 showed 55,842 males and 65,760 females. The same returns stated the total number of families to be 24,981, of whom only 308 were engaged in agriculture, while 10,951 were employed in trades and manufactures, and 18,722 in other pursuits.

Though lying low, a great portion of the town not being more than 6 ft. above high water mark, it is very healthy. The town is about 12 m. from the sea, at the mouth of the Lagan, which bounds it on the SE., and flows immediately into Belfast Lough, which is 12 m. in length, and 5 in breadth at the entrance, gradually narrowing as it approaches the town. The river Lagan, which sepa-

rates the cos. of Antrim and Down, is crossed by three bridges and two boat ferries; the Queen's bridge, built of granite, on the site of the old long bridge, which had twenty-one arches, is a splendid structure; and Ormeau bridge, of four arches, opened in 1863, at a cost of 17,000*l.*, is a magnificent work. The houses, mostly of modern construction, are of brick; the streets are wide, airy, well paved and flagged, clean, and lighted with gas. Principal ecclesiastical buildings, the parochial church, with a tower of the Ionic order; St. George's Church, or chapel of ease, with a very fine portico, and Christ Church: it has in all 14 places of worship for the adherents of the Established Church; 4 Roman Catholic chapels; 24 Presbyterian places of worship, one of very elegant architecture; 8 meeting-houses for Unitarians; 8 for Covenanters; 12 for Methodists; 2 for Independents; and 1 for Quakers. The inhabitants are very nearly equally divided between the three forms of worship prevalent in Ireland—the Established, the Roman Catholic, and the Presbyterian Church. According to the census of 1861, there were 14,151 males and 15,929 females belonging to the Established Church; 18,285 males and 23,121 females adhering to the Roman Catholic faith; and 19,859 males with 22,745 females returned as Presbyterians. There were, besides, 4,946 Methodists; 323 Independents; 230 Baptists; 202 Quakers; and 1,800 persons adhering to other forms of religion. Only 11 individuals, 10 males and 1 female, were returned as Jews.

Of the educational establishments, the principal is Queen's College, founded under the 8 & 9 Vict. c. 66, and opened in 1849. It is divided into Faculties of Arts, Medicine, and Law, and has a president, vice-president, and 20 professors. Pupils of all religious denominations are admitted. It has 30 junior scholarships of 24*l.* each, and 10 senior do. of 40*l.* each. Professors' fees vary from 50*s.* to 30*s.* for each class for the season. The building, in the Tudor style, comprising a museum and library, is outside the town, adjacent to the Botanic Gardens. The Royal Academical Institution originated in a subscription of the inhabitants in 1807, by whom a fund of above 25,000*l.* was raised for the erection of the buildings, and the endowment of professors and teachers. It was afterwards incorporated by act of parliament, and receives an annual parliamentary grant of 1,900*l.* It consists of a collegiate or higher, and of a subordinate or elementary department. In the first, the professors of natural philosophy, moral philosophy, logic and belles-lettres, anatomy and physiology, mathematics, church history, Hebrew, and Greek and Latin, receive annual salaries of 150*l.*, besides students' fees; two professors of divinity receive 100*l.* each, with fees; while the professors of chemistry, midwifery, materia medica, surgery, botany, and biblical criticism, are left to depend on fees only: in the school department there are classes for Latin and Greek, mathematics, English, and French. The number of pupils in both divisions amounts to about 400. The Belfast academy, founded in 1786, comprises an assemblage of highly efficient classical, mathematical, and other schools. There is also an extensive Lancastrian school. Among other literary and scientific institutions, supported by the contributions of the members, are the Society for Promoting Knowledge, founded in 1788, with a library of about 10,000 vols.; the Literary Society, for the discussion of subjects of general literature, science, and art, founded in 1801; and the Natural History Society, founded in 1821: the meetings of this institution are held in a handsome building, erected at the cost of the subscribers, who have also formed a large botanic

garden near the town. Belfast has four public news-rooms, and ten newspapers, some of which are ably conducted. The general state of education, as shown in the census returns of 1861, is nevertheless not very favourable. Enumerating all the individuals five years old and upwards, the returns give 82,242 males and 28,377 females as being able both to read and write; while there were 8,403 males and 18,503 females able to read only, and 7,139 males with 11,281 females who could neither read nor write.

The poor house, for the reception of aged and infirm paupers and destitute children, a large building, in an elevated situation at the N. extremity of the town, maintains about 700 inmates, of whom those capable of work are employed in useful manufactures, or in its domestic arrangements. Attached to it are useful medical and surgical hospitals. The house of industry is now superseded by the union workhouse, established under the new poor law. The fever hospital, with a dispensary attached to it, has accommodation for 220 patients, and an annual income of about 1,000*l*. A lying-in hospital is maintained by public subscription. The district lunatic asylum, for the cos. of Antrim and Down, and the town of Carrickfergus, situate about 1 m. from the town, in an enclosed area of 33 acres, has accommodation for 250 inmates. The new deaf and dumb asylum is an elegant building. There are also two female penitentiaries. The only places of amusement are a theatre, occasionally opened for dramatic performances, and a suite of rooms in the Commercial Buildings for balls, assemblies, and concerts. The exchange, erected by one of the Marquises of Donegal, is now used only for the election of magistrates, and other corporate purposes. Adjoining the town are barracks for infantry and artillery.

Belfast was incorporated by James I. in 1618. Under the late act, it is governed by a mayor, ten aldermen, and thirty councillors. The borough returned two members to the Irish parliament: at the Union it obtained leave to send one member to the H. of C., and in 1832 the Reform Act again conferred on it the privilege of returning two members. The right of election, which had been previously confined to the members of the corporation, was at the same time given to the 10*l*. householders, and, later, to 8*l*. rated occupiers; and a new and somewhat more extended boundary was laid down for elective purposes. The parl. constituency, in 1864, consisted of 3,508 registered electors. General sessions for the co. are held here four times a year: there is also a court of record for pleas of debt to the amount of 20*l*.; a manor court, a court leet, and a petty sessions court twice a week. The town is a constabulary station, and is the residence of the stipendiary magistrate for the county. The property and income tax for the year ended 5th April, 1863, amounted to 35,741*l*. The valuation of property in 1860 was 270,930*l*., and in 1863, 296,833*l*. The police and borough rates in 1863 amounted to about 32,000*l*. The assizes are held here; also quarter sessions, and daily petty sessions, at which the mayor presides. The paving, lighting, and cleansing are vested in a police committee, chosen by the town council.

Belfast is the nucleus of the Irish linen manufacture, and the country spinners and manufacturers meet those of the town on Friday in the Commercial Buildings, which is the public exchange. This trade is now in a flourishing condition, and rapidly increasing. The other chief branches of industry are linen and cotton weaving, iron founding on an extensive scale, and bleach-

ing. There are also print works, flour mills, chemical works, oil mills, alabaster and barilla mills, saw mills, breweries, distilleries, several tan-yards, patent felt manufactories, flax-steeping works, &c., five large ship-yards, with two patent slips, and yards for manufacturing ropes and sail-cloth. There is an iron-ship building yard on Queen's Island, employing 1,200 hands, from which has been launched some of the finest ships afloat. Markets on Friday, besides daily markets for domestic purposes.

The increase of trade and commerce has kept pace with that of manufactures. The situation of the town—at the bottom of Carrickfergus Bay—has made it the chief mart for the circulation of foreign produce through the most populous and wealthy portion of Ulster. To improve this advantage, a line of inland navigation was commenced in 1787, to connect the town with Lough Neagh, partly by still water and partly in the bed of the river; but the unavoidable casualties attending this latter mode of conveyance have so retarded the progress of the vessels employed in it as to render it comparatively useless, and the inland trade has in recent times been mostly carried on by railway.

The first line of railway from the town, the Belfast and Ballymena, now called the Belfast and Northern Counties railway, was opened on the 11th of April, 1848. The Belfast and County Down line was opened, in its first portion, to Holywood, on the 2nd of August, 1848, and in its completed state, on the 3rd of June, 1861. The Belfast, Holywood, and Bangor railway was opened in February, 1865; and the Belfast Central, incorporated July 24, 1864, and intended to connect all the other lines, is to be opened in 1869. All these railways, together with regular steam-boat communication with Glasgow and Liverpool, have greatly contributed to raise the trade of Belfast.

Previously to 1637 Belfast was a creek of the port of Carrickfergus; but the privileges of the latter having been purchased in that year by the crown, the custom-house was transferred to Belfast. The bay is peculiarly favourable to the purposes of commerce, being safe and easy of access. Large vessels formerly lay at the pool of Garmoyle, about 4 m. from the town. But the channel thence was so much deepened and improved in 1840, that vessels drawing 16 ft. water reach the quays at neaps, and those drawing 18 ft. at springs. The superintendence of the harbour is vested in the Ballast Corporation, established under an act passed in 1831, which gives it large powers towards the improvement of the quays and harbour.

The commerce of Belfast is extensive; in 1864 the imports were upwards of 10,000,000*l*., and the exports about 8,000,000*l*. The number of vessels entered inwards from foreign parts in 1863 was 318—tonnage, 87,401; and cleared outwards 106—tonnage, 36,326. In 1864 there entered the port from foreign countries 130 British vessels, of a total burden of 24,390 tons; and 195 foreign vessels, of an aggregate burden of 84,026 tons. There cleared outwards, in the same year, 21 British and 21 foreign vessels, the former of a total burden of 3,958, and the latter of 7,593, tons. On the 1st of January, 1865, there belonged to the port of Belfast 153 sailing vessels under 50, and 326 sailing vessels above 50, tons; besides 11 steamers, of an aggregate tonnage of 1,365.

The following table shows the quantities of the principal imports and exports for 1862 and 1863:—

Articles	Imports		Exports	
	1862	1863	1862	1863
Ale and Porter galls.	733,176	739,182	—	—
Bacon . cwts.	83,841	152,009	88,273	86,000
Barley . tons	1,075	1,851	54	10
Beans . tons	—	—	428	401
Beef . cwts.	1,579	2,900	30,456	30,739
Brandy . galls.	13,664	18,988	—	—
Butter . cwts.	—	—	120,202	117,043
Cattle . head	—	—	80,909	75,330
Coal . tons	438,393	444,442	—	—
Cottons and Muslins, pks.	18,769	16,524	14,053	13,494
Cotton Woollys	900,144	983,136	—	—
Felt . tons	—	—	3,190	3,847
Flax . tons	10,965	6,200	6,117	9,084
Flaxseed tons	319	265	155	620
Flour . tons	13,800	6,219	1,492	1,048
Guano . tons	1,016	1,749	—	—
Hams . cwts.	23,152	53,821	93,045	129,768
Herrings bria.	17,201	16,363	—	—
Hides bundles	18,259	18,166	29,948	29,906
Indian Corn } tons	41,017	42,650	—	—
Iron . tons	19,719	16,938	—	—
— Ore tons	—	—	3,202	9,203
Lard . cwts.	32,511	41,681	21,837	23,516
Leather bales	4,695	4,947	—	—
Linen . yds.	3,721,000	4,048,000	65,086,000	78,475,000
Machinery tins	814	1,294	1,213	1,483
Oatmeal tons	—	—	2,471	2,190
Oats . tons	—	—	2,258	1,420
Oil . galls.	299,980	326,630	—	—
Pigs .	—	—	19,114	15,766
Pork . cwts.	—	—	23,869	18,360
Potatoes tons	764	801	4,676	1,926
Itags . tons	—	—	1,860	1,692
Itum . galls.	20,399	24,390	—	—
Salt . tons	—	—	875	306
Soda . tons	4,568	9,850	—	—
Starch . cwts.	—	—	39,220	41,389
Sugar . cwts.	264,610	275,149	—	—
Tallow . cwts.	62,499	55,146	—	—
Tea . lbs.	2,601,519	2,800,713	41,898	45,876
Thread . lbs.	—	—	1,128,960	1,183,516
Timber loads	16,362	16,597	—	—
Tobacco lbs.	924,896	920,080	—	—
Tow . tons	—	—	1,109	853
Wheat . tons	54,429	43,975	7,303	3,811
Whisky galls.	332,333	526,410	147,961	201,152
Wine . galls.	165,648	159,852	—	—
Wool . lbs.	—	—	177,120	185,280
Yarn, Linen .	8,420,400	5,787,600	15,685,600	20,622,560
— Cotton .	2,417,250	2,170,950	533,610	690,450

In the appearance of the town, and in the habits of the people, the character of Belfast is almost exclusively commercial and manufacturing. There are in it few of the landed aristocracy; its higher classes are formed chiefly of those who have attained an elevated position in society by their personal exertions, or those of their immediate progenitors. There is, therefore, little of external show, but much of internal comfort, in their domestic arrangements. The middling classes enjoy all the comforts, and many of the luxuries of civilisation; the working classes have suffered less from the pressure of distress, arising from temporary stoppages of trade, or manufacturing employment, than those of most of the other great towns similarly circumstanced: on the whole, there is to be seen here little of the aspect of destitution which marks the suburbs of most other Irish towns. The official and other documents, which have supplied the data already given, show, by a review of its condition at different periods, that it is steadily and rapidly advancing in manufacturing, commercial, and literary improvement.

BELFAST, a sea-port town of the U. States, Maine, on the NW. angle of Penobscot Bay,

BELGIUM (KINGDOM OF)

224 m. NE. Boston. Pop. 7,052 in 1860. It has an excellent harbour, and is a thriving town.

BELFORD, a market town and par. of England, co. Northumberland, Bamberough ward. The par. contains 9,380 acres, and had 1,724 inhab. in 1861, and the town, 1,067. The latter is finely situated on the great road from York to Edinburgh, and has a station on the Newcastle and Berwick railway.

BELGARD, a town of Prussia, prov. Pomerania, cap. circle, 16 m. SSW. Coeslin. Pop. 4,952 in 1861. The town is situated at the confluence of the Leinitz with the Persante, and is almost entirely surrounded by water. It has an old castle, 3 churches, 2 hospitals, and fabrics of cloth.

BELGAUM, an incl. town of Hindostan, prov. Bejapoor, presid. Bombay, distr. Darwar, in a small subdivision of which it is the capital, 105 m. SW. Bejapoor, 55 m. NW. Darwar; lat. 15° 52' N., long. 74° 42' E. Pop. estimated at 8,000. It is strongly fortified, with massive and solid walls, ramparts flanked by bastions, a broad and deep ditch, and is surrounded by an esplanade. Its interior is extensive, but covered with ruins of native buildings, amongst which are two ancient temples. This town is well supplied with water, and held out against the British longer than any other garrisoned by the peishwa's forces; it was, however, taken in 1818. The subdivision of Belgaum has a healthy climate; but all external trade is stopped for six months a year by the violence of the rains. A third part of the inhab. are Maharattas, and about one-sixth Mohammedans, one-eighth Jains, and one-ninth Brahmans.

BELGERN, a town of Prussia, prov. Saxony, on the Elbe, 7 m. SE. Torgau, on the railway from Berlin to Dresden. Pop. 3,232 in 1861. The town is very ancient, has a hospital, and a town-house, before which is a triumphal column. It has some trade in corn.

BELGIOJOSO, a town of Northern Italy, prov. Pavia, cap. distr., 9 m. E. Pavia, and 23 m. SSE. Milan. Pop. 3,643 in 1862. The town is situated in a fruitful plain, between the Po and the Olona; it is well built, has a magnificent aqueduct, and a fine castle, in which Francis I. spent the night subsequent to the battle of Pavia.

BELGIUM (KINGDOM OF) is situated between France and Holland, and has been established since the separation of its provinces from those of Holland by the revolution of 1830. Its territory is small as compared with the great European states, being only about one-eighth of that of Great Britain, while its population is not nearly five millions. However, the important position which this country has occupied in the political, military, commercial, and agricultural history of Europe—its former celebrity in manufactures and the fine arts—and its present rapid progress in every industrious pursuit and social improvement, give it a peculiar interest.

Extent.—Boundaries.—Area.—Belgium extends from 49° 27' to 51° 31' N. lat. and from 2° 37' to 6° E. long. On the N. the boundary line is formed by Holland, along a line of 380,000 metres; on the E. by Prussia, 377,000 metres; on the S. by France, 591,000 metres; and on the E. by the North Sea, 69,000 metres.

The general outline of the territory forms a triangular figure, of which the longest side extends on the frontier of France, from a point midway between Furnes and Dunkirk to one 9 m. SE. of Arlon, or 5 E. from Longwy. The greatest length of the territory of Belgium from NW. to SE. is 64 leagues, of 5,000 metres, about 193 English miles; and the greatest breadth from NE. to SW. is 42 leagues, or about 127 miles. The whole area

contains 11,313 Engl. sq. m., or 7,363,982 Engl. acres.

The kingdom consists of nine provinces—Antwerp in the N., East and West Flanders and Hainault in the W., Brabant in the centre, Limburg and Liege in the E., Namur in the S., and Luxembourg in the SE. These formerly constituted the duchy of Brabant, the marquise of Antwerp, the principality of Liege, the seigneurie of Mechlin, the comtes of Flanders, Hainault, Louvain, and Namur, and the duchies of Limburg and Luxembourg. At the time of the Belgic revolution, in 1830, the nine provinces of Belgium formed, in conjunction with those of Holland, the kingdom of the Netherlands, which by that event was dissolved into the present kingdoms of Holland and Belgium.

Brussels is the capital, and seat of government, for the administration of which the kingdom is divided into the 9 provinces above enumerated, 44 *arrondissements*, 98 towns, and 2,640 rural communes. For military purposes it is divided into 9 commanderies, corresponding to the 9 provinces: and, lastly, for judicial proceedings, it is divided into 29 *arrondissements*, and 237 cantons.

General Aspect of the Country.—The north and west provinces of Belgium, in their flatness, fertility, dykes, and canals, may be regarded as a continuation of Holland. This portion of the kingdom is so densely peopled, that it presents to the traveller the appearance of one vast continuous village. The south and east provinces have an opposite character: they are generally more thinly peopled, and less cultivated, and exhibit a most irregular, mountainous surface, with tracts of marshy land, and extensive forests. With the exception of these hilly districts in the south and east, the whole territory presents a series of nearly level plains, traversed by numerous streams, delightfully diversified by woods, arable lands, and meadows of brilliant verdure, enclosed by hedge-row trees, and thickly studded throughout with towns and villages.

In surveying the general face of the country, and proceeding from W. to E., we observe that the coast is uniformly flat, and formed of fine loose sand, which, by the frequent action of the sea winds, is raised into gently undulating downs, or *dunes*. These banks of sand extend, nearly without interruption, from Dunkirk, along the entire coasts of Belgium and Holland. In breadth they vary from one to three miles, and rise in the highest parts to 40 or 50 feet. They are formed entirely by the operation of the sea winds, in elevating the deep sands of the shore; and since they serve as a natural barrier to the encroachments of the ocean, it is an object of great importance to check their constant tendency to advance inland. For the purpose, therefore, of rendering the sand compact and stationary, the *dunes* are sown with a species of reed, *arundo arenaria*, until a sufficient stratum of vegetable mould is collected to support plantations of firs (*Pinus maritimus*), with which most of the Belgic *dunes* are thickly covered.

Though no part of the surface of Belgium be actually below the sea level, like that of Holland, yet, in common with the latter, its shore, in some parts, is defended from the encroachments of the sea by broad and elevated dykes; and whole districts, which formerly were alluvial morasses, have been drained and embanked, or have been gained entirely from the bed of the ocean. The embanked enclosures of this description are called *polders*. On the sea coast, and along the lower banks of the Scheldt, they are very numerous, and some contain above 1,000 acres of rich alluvial soil, which is appropriated with great advantage to the pur-

poses of agriculture, under which head will be found some further account of them.

To the SE. of the dunes the provinces of West and East Flanders, and Hainault, form a far-stretching plain, of which the luxuriant vegetation indicates the indefatigable care and labour bestowed upon its cultivation; for the natural soil consists almost wholly of barren sand, and its great fertility is entirely the result of very skillful management, and judicious application of various manures.

The undulations in the surface of the northern districts are so slight that, from the lofty top of the cathedral of Antwerp, the view, on a clear day, extends on every side over a radius of nearly 50 miles, including, on the E., the city of Turnhout; on the W. that of Ghent; and on the S. the city of Mechlin; the whole panorama towards the W. and S. displaying a beautiful succession of vividly verdant fields, varied by masses of wood, streams, and picturesque villages. Around the cities of Antwerp and Mechlin are great numbers of elegant and highly ornamented country mansions, belonging to the wealthy classes. The northern parts of the provinces of Antwerp and Limburg are less varied and fertile than any others. The soil is for the most part composed of pure sand, very partially mixed with argillaceous earth. The largest unbroken plain in the kingdom is called Campine, and comprises the NE. portion of Antwerp, and the NW. of Limburg. It consists of marshes, desolate moors, peat bogs, and extensive tracts of sand, covered with heath, broom, and stunted firs. Some parts, however, contain natural prairies, and serve for pasturage to herds of excellent horses; and the portion of Limburg, near the banks of the Meuse, is fertile and carefully cultivated. The scenic character of Brabant resembles that of Flanders, with respect to its beautiful fields, and gardens, and luxuriant trees; but the surface is more varied by hills and valleys. In the province of Liege the N. bank of the Meuse overlooks a fertile plain, producing all kinds of grain and vegetables, and affording excellent pasturage for cattle, and for dairy husbandry; but the country on the S. bank of the river belongs to the mountainous district which constitutes the provinces of Luxembourg and Namur. A part of this comparatively wild and rugged region is covered with dense forests, which still furnish an asylum for the wild boar, the roe-buck, the bear, and the wolf. The surface is very irregularly varied, in some parts by large tracts of barren heath and marshy lands, and in others by ridges of hills, mantled on the slopes and summits with masses of dark woods, and by precipitous rocks, whose bare escarpments form a striking contrast with the brilliant verdure of the well-cultivated valleys they enclose. The hills are often intersected in different directions by deep ravines and rapid streams; and the romantic beauty of the scenery is much heightened by numerous ruins of old feudal castles. The course of the Meuse, from Dinant to Maestricht, offers some very picturesque combinations of landscape and rock scenery. The river is closely shut in by lofty cliffs of various hues, some of which are surmounted by ruins of modern villas. Here they overhang the river and are beautifully shrouded with bushes of box, wild myrtle and ivy; there they slope away to its margin, or vertically are cleft asunder, and present through the chasm a delightful view of highly cultivated farms and villages half hidden by trees in the distant uplands. The wild state of nature in Namur, Liege, and Luxembourg; the various fossil and mineral products; and the charms of the scenery, have long made this part of the country

a favourite resort of the naturalist, the geologist, and the painter. All around the city of Liege, and the celebrated springs of Spa, ornamental villas of the rich are thickly stationed, where vineyards occupy the declivities of the hills, and hop-gardens flourish in the valleys.

Climate.—Meteorology.—The climate of Belgium is less chilly and damp, and more temperate and favourable to health, than that of Holland; however, it is certainly humid, compared with France and Germany, and may be considered as very similar to England, except that it is still more subject to frequent variations, with a tendency to excess. The provinces differ considerably in the character of their atmosphere. In general, the air in the more elevated central and SE. districts is clear, fresh, and salubrious; but in the low NW. plains it is damp and hazy. In the provinces of Flanders and Antwerp the NW. winds from the sea produce a cold and ungenial temperature throughout the winter, which is long and often wet; and their influence upon the currents of the rivers, which are wholly unsheltered by hills, renders the adjacent country liable to disastrous inundations. The great atmospherical humidity produced by fogs from the sea, and the unwholesome miasmata exhaled from extensive tracts of low marshy and alluvial lands, enclosed by dykes and ditches, and from almost stagnant canals, occasion annual visitations of dangerous fevers. The neighbourhood of Furnes, in West Flanders, is rendered especially sickly by the malaria from these sources. The provinces of Hainault, Namur, and Luxembourg are accounted most worthy of preference, with regard to healthiness; and the two Flanders, though first in cultivation, must, in point of salubrity, be placed last. The air of the polders is generally unhealthy, and affects those not inured to it with fever and ague. Speaking of the whole kingdom, it may be stated that the winter, or rather the rainy season, often comes on precociously and continues late; and that the summers are either very hot and dry, or extremely wet. November and April are nearly always rainy; the transitions of temperature are frequent and sudden, so that in the same day are experienced oppressive extremes of heat and cold. The most violent winds are from the SW., and the most frequent from the N. and the W. A W. wind most frequently, and E. wind most rarely, brings on rain. From observations made at Brussels during three successive years, the medium height of rain which fell in one year was 633 millimetres; the extremes were 761 and 511. The number of rainy days averages 170. The medium temperature of the year is 10·52 centigrammes, and it is well represented by that of October and April. The temperature of the hottest month is 20° 36', and of the coldest 0° 85'; difference, 19° 51'.

Mountains.—No elevation in Belgium is properly entitled to the appellation of mountain. A ramification of the chain of the Ardennes extends in a NE. direction through Luxembourg, Namur, and Liege, and forms a mountainous crest, which separates the waters of the Meuse from those of the Moselle, towards each of which it gradually descends. Another offshoot of the Ardennes rises parallel with this, on the N. banks of the Sambre and Meuse, between Mons and Maestricht. The highest points of elevation are about 2,200 ft. above the sea; and one of these is the hill which overlooks the celebrated springs and town of Spa.

Forests and Woods.—A space of nearly 650,000 hectares, or one fifth of the whole surface of the kingdom, is covered with forests and woods. All

the common trees of Europe are abundant; as the oak, poplar, pine, fir, larch, ash, beech, maple, aspen, plane, linden or lime, chestnut, birch, elm, alder, and numerous others. Plantations for hop-poles, oak bark, and firewood, occur frequently throughout the western provinces. Hainault has several forests of fine oaks; but by far the most thickly wooded provinces are Namur and Luxembourg, in many parts of which the soil is less fertile, and better adapted for the growth of timber trees than for the cultivation of corn and grasses. The forests belonging to the state, to the communes, and public institutions, occupy 194,000 hectares, and are submitted to an established system of public management. From the oak timber of the forests of Luxembourg are derived immense supplies of charcoal for the iron-works in that part of the country. The bark forms a considerable branch of commerce, and is principally exported to England.

The forest of Soignes, between Brussels and Waterloo, so interestingly associated with the memorable battle in that locality, is 9 m. in length by 8 in breadth, and contains 11,983 hectares, or 29,641 acres. The timber is valuable for building, and a thousand acres of it are possessed by the family of the Duke of Wellington, granted to the late duke in connection with his title of Prince of Waterloo. The forests in the provinces of Namur, Liege, and Luxembourg, are remains of the immense ancient forest of Ardennes, which covered a vast extent of the country between Bonn and Rheims, as we learn from the great Roman author. 'Sylva Arduenna, quæ ingenti magnitudine à flumine Rheno ad initium Rhemorum pertinet.' (Cæs. Com. v. 8.) The romantic forest of St. Hubert, on the W. side of the province of Luxembourg, between Marche and Neufchâteau, is the scene of Shakspeare's 'Forest of Arden.' A general woody appearance is given to even the most cultivated parts of Belgium, by the custom of planting trees in the hedge enclosures of the fields; the principal roads are also lined by double rows of majestic lindens, and the canals are usually shaded by rows of poplars, beeches, and willows. The Belgian proprietors of land derive a large and secure income from the produce of timber and underwood, independent of rent; and planting is, therefore, sometimes prosecuted to a greater extent by the landlords than is consistent with the convenience and advantage of the occupiers of farms. The latter, however, are remunerated by the use of a certain share of the wood.

Extensive artificial woods of Scotch pine are created by sowing about six pounds of seed to an acre, generally on the poorest soil, which is prepared by burning the heathy surface, and scattering the ashes. In six years many barren tracts are converted, in this way, to flourishing plantations of fir, from 5 to 9 ft. in height. The preservation of trees is very strictly enjoined, not only by proprietors, but by the government. Every farmer is compelled to destroy caterpillars, and remove every other cause of injury to the trees on his premises. All the trees on the public roads, besides those of the numerous royal forests, belong to the government, and the laws for their management are enforced with great vigilance by inspectors appointed for that purpose.

Rivers.—Belgium is one of the most efficiently watered countries in Europe. All its streams belong to the North Sea. The Scheldt, in the W., and the Meuse, in the E., can alone be properly denominated rivers. They traverse the kingdom generally in a direction from N. to S. There are about forty rivers and rivulets, which form the lateral branches of these two principal streams;

but though their utility, in fertilising the soil by irrigation, and as feeders of canals, is highly important, they can hardly be entitled to special notice in a general account of the physical features of the territory.

The Scheldt rises in France; flows through Cambray, Valenciennes, and Conde; and enters Belgium on its confluence with the Scarpe, a few miles S. of Tournay; through which town it passes, and pursues a northerly course to Ghent, where it receives the Lys. Thence it flows tortuously to Termonde, whence, turning northward, it is augmented by large tributary streams on each side, and becomes, before the walls of Antwerp, a majestic river, 2,000 ft. in width, and navigable for fleets of the largest ships. The length of its course in Belgium is 212,000 metres, and the upper half, and several of its affluents, are navigated by boats of 200 tons. The Meuse also rises in France, and enters Belgium on the S. of Dinant, through which town it flows to Namur, where it receives the Sambre; then turning eastward it passes Andenne and Huy, to the city of Liege: there resuming its northerly course, it continues through Maestricht, and winds across the NW. of Limburg into Holland and the North Sea. The length of its course in Belgium is about 126,000 metres. It is navigated by large strong boats, from 100 to 150 tons. From Liege to Venloo the navigation is particularly difficult. The affluents of the Meuse at Liege descend in some parts of their courses at an angle of 40°, and the long narrow boats, which shoot down with the velocity of an arrow, are drawn up by ropes and pulleys. The principal affluents of the Scheldt, on the E., are the Dendre, and the Senne, Dyle, Geete, Demer, and Nethe, which unite below Mechlin, and flow into the Scheldt, in the channel of the Rupel. On the W. it receives the Lys and Durme, and communicates with several canals.

Of these rivers, belonging to the basin of the Scheldt, the following are each navigable to the extent expressed in metres:—

The Demer, in Limburg and Brabant . . .	31,000
Dendre, " Hainault and East Flanders . . .	67,650
Durme, " West Flanders . . .	22,200
Dyle, " Brabant and Antwerp . . .	22,200
Scheldt, " Hainault, E. Fland. & Antwerp . . .	212,000
Lys, " West and East Flanders . . .	90,000
Nethe, " Limburg and Antwerp . . .	13,000
Rupel, " Antwerp . . .	12,000

The Meuse on the E. is joined by the Semois, Lesse, Ourthe, Ambleve, Vesdre, and Roer, and on the W. by the Sambre, Jaar, and several smaller streams.

The rivers belonging to the basin of the Meuse are navigable as follows:—

The Meuse, in Namur, Liege, and Limburg . . .	126,000
Ourthe, " Luxembourg and Liege . . .	102,000
Sambre, " Hainault and Namur . . .	94,356
Vesdre, " Liege . . .	30,000
Ambleve, " Liege . . .	10,000

The Our, Sure, and Azette, in Luxembourg, flow into the Moselle, near the town of Treves, and belong to the basin of the Rhine. The Sure is navigable in Belgium 52,000 metres, the Moselle 37,000, and the Yser 41,540. The total length of navigable rivers is 962,746 metres.

Geology.—*Mineral Products.*—West and East Flanders are composed of horizontal strata of white, yellow, and grey sand, and clay, separate, and mixed in different proportions. When the stratum of sand forms the surface, the soil is arid, and of difficult cultivation; and it is rich and fertile in proportion to the depth at which the sand lies below the vegetable deposit. Numerous beds of turf prove the ancient existence of marshes.

The only mineral product of these provinces is clay, for the manufacture of tiles, bricks, pottery, and pipes. In some localities it contains oxide of iron. The sand stratum, in W. and E. Flanders, is deep, and constitutes one fourth of the area. In deep wells, descending to the primitive granite, alternate beds of sand and clay are found mixed with marine shells, which are evidently deposits of the ocean, and prove that, in remote ages, this whole region was submerged under its waters. Four or eight feet below the surface, where it is of clay, are the beds of peat or turf, varying in depth from 4 to 12 ft. To the poorer classes it supplies a cheap fuel, and its ashes, mixed with sand, are much used as a very successful manure for clover and grains. Turf is also produced plentifully in the province of Luxembourg, and in several other parts of the kingdom. Siliceous pebbles, agates, chalcedons, and red cornelians, are found in the sand and clay of E. Flanders, and many vegetable and animal petrifications. Among the latter are large antlers of deer, and horns of oxen; with bones of the horse, ox, dog, and wolf. Vegetable fossils, consisting of various productions of the soil, are frequently obtained by the peasants for fuel. They include numerous trunks of the oak and ash, which are hard, black, and polishable, and yield red ashes in combustion. The geological character of the province of Antwerp and of the N. part of Brabant, is similar to that of the western region; and the ocean apparently once covered the whole northern half of the kingdom, as well as the plains of the W., for the hill on which Brussels is built contains many marine remains.

The rock strata of Hainault exhibit three successive formations: the first, or lowest, is composed of porphyry and quartz; the second of calcareous earths, coal, and schisti; and the third comprehends argillaceous earth, with deep deposits of sand, and various debris.

In the high south-eastern districts strata of red sandstone and limestone, containing organic remains, are incumbent upon rocks of granite, quartz, and slaty schisti, which have generally an inclination or dip from NE. to SW. Descending thence towards the NW., the rocks of sandstone, limestone, quartz, and schisti, containing vast beds of anthracite, form a basin extending about 40 m. around the city of Namur. The strata of these rocks are often nearly vertical, so that the large coal pits in the vicinity of Namur and Mons require to be worked by shafts resembling wells. Namur produces, besides coal, abundance of carbonated lime, siliceous, excellent clays for the manufacture of porcelain, common pottery, and pipes, and a sand from which crystal is obtained. Pebbles susceptible of a beautiful polish are found about Fleurus. The S. and E. portions of Belgium, comprehending Hainault, Namur, Luxembourg, and Liege, are especially interesting to the mineralogist, as containing almost every article in the geological inventory, especially iron, coal, marble, various kinds of stone and slate, copper, lead, zinc, manganese, calamine, sulphur, alum, &c. Curious animal fossils are found in the province of Liege, where numerous caverns in the hills furnish bones of the bear, hyæna, elephant, rhinoceros, and fragments of the human skeleton. Near Maestricht is a subterranean labyrinth, extending several miles in length and breadth, in rocks of soft yellow stone under the hill of St. Peter, where are found the shells of large crabs and turtles, and the bones of gigantic lizards above 20 ft. in length. The numerous rocky valleys, by which the south-eastern half of the territory is intersected, have apparently been formed, not by the corrosive action of water, but disruption of rocks, which

subsequently afforded channels for the present rivers and streams. At the village of Han, on the river Lesse (Hansur-Lesse), in the S.E. of Namur, an immense cavern extends nearly a mile through the limestone rock, and forms the subterranean channel of the Lesse. The numerous and spacious compartments of this remarkable cavern are naturally ornamented with clusters of glistening stalactites, and offer combinations of the grotesque and wonderful that remind the spectator of the celebrated grotto of Antiparos. Scientific descriptions of it have been given by Quetelet, Kikx, and Vandermaelen.

The working of mines constitutes a most important part of the national industry of Belgium. The mining districts form three divisions of the territory. The first is in the province of Hainault; the second, in the provinces of Namur and Luxembourg; and the third, in the provinces of Liege and Limburg. The total number of mines, in the year 1862, amounted to 1,583, of which number 195 were coal mines. They cover an area of 94,581 hectares, and give occupation to 77,293 workers, including 12,720 women. In estimating the relative value of the mineral products of Belgium, coal must be considered first in order, and of the highest national importance, as furnishing the greatest amount of advantages to the country. This branch of industry is in full prosperity, and its immense produce amply supplies the manufacturing and domestic consumption of the kingdom, and is largely exported to France. The annual quantity extracted from the coal fields of Hainault alone is larger than the whole produce of France. The three great centres of the coal mines, which are at Mons, Charleroi, and the city of Liege, produce annually above 4,000,000 tons.

Subjoined is a comparative statement of the quantity and value of the mineral and mineralurgical produce of Belgium during the year 1862. The quantity is given in 'metrical' tons, each weighing thirty-six pounds less than an English ton:—

Produce			Year 1862
Coal . . .	tons .	9,610,895	107,127,282
	frances .	809,176	
Iron Ore, washed	tons .	7,748,638	42,513
	frances .	1,258,109	
Pyrites . . .	tons .	17,284	884,263
	frances .	48,857	
Blende . . .	tons .	2,123,969	9,980
	frances .	1,606,223	
Galena, Lead Ore			
Total Value of Minerals . . .			120,693,484
Tax on Mines . . .			495,844
Iron, Cast and Wrought	tons .	591,633	81,073,867
	frances .	3,172	
Steel . . .	tons .	849,000	4,153
	frances .	1,801,987	
Lead . . .	tons .	1,004	2,694,380
	frances .	45,457	
Copper . . .	tons .	24,634,673	1,172
	frances .	233,206	
Zinc . . .	tons .	18,612,000	
	frances .		
Alum . . .			
Glass . . .			
Total Mineralurgical Produce } tons .			129,699,113
Mineral & Mineralurgical Total Value } frances			250,292,597

Mines of iron are numerous, especially in the district between the Sambre and the Meuse; and many are worked in the provinces of Luxembourg, Liege, and Limburg. In quality the metal resembles that of France, but the price is lower. Copper is found in the provinces of Hainault and Liege; and lead in Liege, Namur, and Luxembourg. The lead mine of Longvilly, in Luxembourg, is the largest in the kingdom. Zinc is obtained in Namur and Hainault; manganese in Liege; and pyrites, calamine, sulphur, and alum, in Namur and Liege.

The region included between the frontier of France and a line drawn from Ostend to Arlon, in the S. of Luxembourg, abounds in excellent materials for building—freestone, limestone, granite, paving slabs, slates, &c.: there are also many quarries of excellent marble of various kinds. The black marble of Dinant is highly valued, and a species called *petite granite*, in which are found many marine organic remains. Superior large slates are quarried in the provinces of Namur and Luxembourg. At Herbemont, a little to the W. of Dinant, is the most important slate quarry in the kingdom, producing annually above 8,000,000 slates. Sandstone is quarried in Liege and Limburg, but chiefly in Hainault. Ample supplies of excellent millstones, grindstones, and whetstones are furnished from the stone quarries of Liege and Luxembourg; and the hones from the quarries near Spa are not exceeded in quality by any in Europe, to all parts of which they are exported.

Mineral Waters.—Belgium possesses several springs of medicinal mineral waters. Those of Spa on the SW. of the city of Liege, are celebrated throughout Europe. They issue from seven different sources, of which the one named the Pouthon is the principal. The water is perfectly clear, but gives, after standing, a slight deposit of ochre. It has an acid, ferruginous taste, and bubbles of gas continually escape at the surface. The quantities of iron and carbonic acid which it holds in solution are greater than in any other known mineral water. Its temperature is 50° Fahr., and the specific weight 1.00098. Numerous maladies are believed to be removed by using it for drinking and bathing. About a thousand bottles of it are daily sent to foreign parts, and the annual number of visitants at the spring amounts to between two and three thousand. The establishments for their accommodation are convenient and elegant; and the scenery of the vicinity affords ample amusement for the admirers of the picturesque; but as Spa is the favourite resort of speculating and reckless votaries of fashion, it is too true that the authorised system of gambling produces a great amount of evil to oppose to the good effected by the virtues of the water.

The hot springs of Chaudfontaine, in the same locality, but nearer to Liege, are also much visited, and others at Morimont, near Namur. At the ancient town of Tongres, near Maestricht, is a mineral fountain of a temperature about 60°. Pliny thus describes it, and it still retains its ancient properties:—*'Tungri, civitas Gallie, fontem habet insignem, pluribus bullis stillantem, ferruginei saporis quod ipsum non nisi in fine potus intelligitur. Purgat hic corpora, tertianas febres discutit, calculorumque vitia.'*

Animal Productions.—All the domestic animals of the other countries of Europe are found in Belgium. Among the wild animals are a few boars, roebucks, bears, and wolves, which still find refuge in the immense forests of Luxembourg. Foxes are not numerous, but all the common kinds of game, quadrupeds, and birds, are plentiful in the woody parts of the country; especially in Namur, Lux-

emburg, Liege, and Limburg. The heaths of Verviers, in the province of Liege, are believed to be the only spot in Europe where the great heath cock, *grand coq de bruyère*, can be found.

Horses.—Flanders has long been famous for its breed of work-horses, and by their frequent importation into England, the English draught-horse breed has been much improved. The Suffolk punch-horse very nearly resembles the species most common in Flanders. The colour of the Flemish horses generally is chestnut, in all its shades, and roan. They are of the true working character, remarkably docile, and possessed of superior bulk and strength. The chief defect occasionally observable in their form is a want of depth in the girth, and a dip behind the withers, but in all other respects they are finely shaped. A small head and pricked ear, rising neck and crest, short back and couples, great strength over the loins, round hips and lengthy quarters, open chest, a good arm, short legs of powerful sinew, short pasterns, semicircular hoofs, with a round frog and open heel—these points, comprised in a compact form, with a height of about 15 hands, constitute a work-horse of great merit, which, when three years old, can be purchased at 20 or 30*l*. They are kept in excellent condition, and are shod with so much care that a defective foot or lame horse is never to be seen. A dietary system is observed with great precision and regularity. Chopped straw is invariably given with oats, and the water is always well whitened with meal of rye, oats, or barley. Clover is the common fodder in summer, and carrots in winter, never omitting the chopped straw and meal water. Of late the Belgic horses have been materially improved by propagating from select breeds, and judicious crossing. Every farmer in Flanders breeds his own work-horses; but the business of breeding is only a subordinate and accessory branch of husbandry. The polders and prairies of Antwerp afford pasturage to numerous Flemish horses; and there are in E. and W. Flanders a great many fairs, at which they are sold for exportation to France and England. Belgium produces several other varieties of the horse, among which the Luxemburg cob is a valuable breed, and has been imported into England for its excellent qualities, as a very compact and powerful little horse, short-legged, well-boned, about 13 or 14 hands in height, and equal to carrying the heaviest rider, as well as fit for hard work in harness. The Belgic government, with the view of improving the native breeds of horses by crossing them with those of England, has formed, at Tervueren, a beautiful stud of about 40 stallions, and appointed stations for them in all the provinces. The beneficial result of this expedient, which has been in operation since 1834, is apparent in the production of a very superior race of horses. The government also awards premiums to the proprietors of winning horses at the public races.

In Flanders, the eager thriftiness of the farmer induces him to put his colts to hard work often at the age of eighteen months, which is long before the requisite strength is acquired; and the consequence is very injurious. Horses are employed for all kinds of work in harness; but the peasantry commonly prefer making use of asses for riding, especially in the sandy districts along the sea shore.

Horned Cattle.—The breeding and management of all kinds of live stock in Belgium are much less exemplary than the culture of the soil. The cattle are the short-horned Dutch breed, but they are not in general so well formed as in Holland. Indeed, but little attention appears to have been devoted

to the niceties of breeding, and the advantages of selection. The colour is, for the most part, black, and black and white. Flanders, W. and E., contain more than 290,000, many of which are fattened and sold. The oxen are larger than the cows, and weigh, when fattened, from 6 to 8 cwt.; but the same eagerness for gain which occasions the too early working of the horses, induces the farmer to hurry his oxen to market at about two years of age, before they are perfectly fattened. The same penurious spirit is apparent in the practice of having, in general, only 1 bull to 150 cows; and in some localities to upwards of 200. Numerous herds of cattle are reared on the wild herbage of the large forests in the central, S., and E. parts of the kingdom, and are finally fattened on oil-cake, at a very small expense. No part of Belgium produces better oxen and calves than the prairies of the great Campine plain, between Antwerp and Maestricht. Cows are kept in great numbers on the pastures about Furnes and Dixmude, in W. Flanders, and a large quantity of butter is made for exportation. In their cow stables, the Flemish farmers preserve the temperature of the month of May; indeed, so much attention is paid to the state of these places, that Mr. Ratcliff, in his *Agricultural Survey of Flanders*, speaks of having taken coffee in one of them, with the proprietor, in the middle of winter, without having been in the least incommoded by cold, dirt, or offensive odour. For the preservation of cleanliness, they adopt an odd expedient, which is very common in Holland, keeping the cows' tails erect, by means of a cord which passes over a pulley in the roof. The usual food in summer is chiefly clover; and in winter, turnips, which are rather poor and small, with carrots, potatoes, a very little hay and straw, and the white soup which is given to horses; consisting of tepid water, thickened with oat, rye, or barley meal, and a small portion of oil-cake. However, not only the breed, but the treatment of cows in Flanders is regarded, by English writers, as very inferior. They are constantly confined to the stalls; and as the clover and other forage crops are there consumed in their green state in the summer, a deficiency of roots in the winter reduces their diet to dry straw, so that, as M. Vandermaelen remarks, they are often so emaciated in the month of May as barely to be able to walk; and Mr. Pryse Gordon, in his work on Belgium, states, that their wretched state in the spring is almost incredible; that they resemble those of Shetland, which, in scanty seasons of the year, are fed on dried stock-fish; or the cows of the N. Cape, which are occasionally kept alive on pickled salmon! In the forest of Solignies, and other parts of Brabant, the cattle are large and coarse. The Belgians, in fact, do not yet appear to be generally aware that animals of a moderate size are more profitable than those of larger dimensions; that light, compact, and short-legged horses are most enduring for work requiring not strength alone, but activity; and that small and slight-framed cows, such as the Alderney, Suffolk, and Ayrshire breeds, produce more and richer milk than many larger kinds.

The Belgic government has, for some years, taken much pains to introduce superior breeds of cattle; and the proprietors are gradually becoming convinced of their interest in effecting a change in their kinds of stock, though the characteristic tenacity with which they cling to old-established notions, still greatly retards the beneficial accomplishment of the government plans of improvement.

On an average of the last fourteen years, the annual produce of cattle in the whole kingdom

was 898,076; and, on the same average, there were in each province the following numbers:—

Antwerp . . .	88,412	Liege . . .	83,576
Brabant . . .	98,234	Limburg . . .	104,340
W. Flanders . . .	132,096	Luxemburg . . .	120,360
E. Flanders . . .	120,317	Namur . . .	58,327
Hainault . . .	92,414		

In 1862 the number of draught oxen employed in agricultural labour was 81,875.

Sheep.—On the farms of Belgium, the sheep stock is generally a secondary object of attention. There are two principal indigenous breeds, the Flemish and the Ardenne. The indigenous Flemish sheep is a tall, thin, long-eared animal, furnishing a coarse long wool, and the worst kind of mutton. The Ardenne breed is smaller, and, from ranging over the sweet wild herbage of the hills of Liege and Luxemburg, the mutton acquires an excellent flavour, but the wool is not of superior quality. The mode of feeding sheep in Flanders accounts for much of their bad qualities: they are housed at night, and during the day are followed by the shepherd and his dogs, along the lanes, pathways, and margins of arable fields, where they barely pick a subsistence, and never enjoy the range of a sweet and wholesome pasture. In winter they are let out, for a short time, but once a day, and are fed upon rye, straw, and hay; and though three or four years would be required to fatten them, they are slaughtered at one year old, in a condition, says Mr. Ratcliff, very nearly that of carrion. The sheep which are fed on the prairies of the Campine plain produce the best wool of the kingdom; and that of the Ardenne breed is next in quality. The wool and mutton of the flocks of Namur are considered comparatively good. Some fine specimens of the Leicester and Cotswold breeds, which have recently been imported from England, are expected to produce a much improved race, that will supersede the present inferior kinds. The total number of sheep in the kingdom is above 1,000,000; about one-half of them are in the provinces of Liege, Limburg, Luxemburg, and Namur. The provinces of East and West Flanders have each about 40,000 sheep.

Swine.—The Belgic swine are similar to those of France, and have more resemblance to the greyhounds than the hogs of England. Their long and thin bodies are mounted upon fleet and lengthy legs, and the ridge of their backs describes the arc of a circle. Herds of these animals are turned into the forests, where they feed abundantly upon the beech mast and acorns that strew the ground. They make very good pork and bacon after having been long and well fed; but this kind of meat is the dearest in the market. Better breeds have been imported from England; and, from the prolific nature of the animal, they will probably soon become numerous and beneficial. A few pigs are reared by every farmer in Flanders for domestic supply of pork, which is the common animal food of the working classes; but the markets are supplied by distillers and millers, who have great facilities for feeding with the refuse of their establishments.

Fish.—Fresh-water fish abound in most of the larger streams. Those of the finest quality are found in the S. parts of the kingdom. The principal kinds are pike, trout, carp, perch, tench, eel, lamprey, sturgeon, salmon, barbel, shad, gudgeon, whitebait, anchovy, and ecrevisse, or fresh-water lobster.

In the fishery off the sea-coast, and in the mouth of the Scheldt, are taken skate, plaice, bret, soles, turbot, dab, angels, whiting, smelts, lobsters, crabs, pilchards and shrimps; and from the deep sea fishery are supplied cod, herrings, oysters, and muscles.

The dog-fish (*chien de mer*) commits so much injury to the fishery of the Scheldt, that the government gives a reward for its destruction. About 200 boats are employed in the cod and herring fisheries, the produce of which has always been the subject of a considerable commerce. The national fishery is rapidly increasing, and premiums, amounting to 40,000 francs, are annually awarded by the government for its promotion.

Agriculture.—In consequence of the new political system adopted in Belgium since the Revolution of 1830, every branch of industry has been greatly improved and extended. The construction of numerous roads, railways, and canals, has produced an enormous increase in the value of land and buildings, amounting, in several whole districts, to one-fourth of former estimates; and the government has established an especial council, charged with the care of ascertaining the means of promoting the interests of agriculture. At Brussels has been formed a veterinary and agricultural college on a large and liberal scale, which is expected to effect many beneficial improvements, especially in the breeds of live stock. The natural soil of Belgium is composed of mere sand and clay, combined in various proportions. The clay alone contains the nutritive properties required for the support of vegetation, but without a due admixture of sand, to render it porous and friable, it is perfectly sterile, from its too great adhesiveness, retention of water, and liability to become baked by the sun. The artificial soil, in Flanders and many other highly cultivated parts of the country, is rich, black, and loamy, and possessed of great fertility, through the vast quantities of manure, vegetable and animal, which for ages have been constantly intermixed with the natural sand and clay. Although in Belgium the cultivation of the earth is carried to a great extent, about one-twelfth part of the whole surface remains still uncultivated; one-eighth consists of grass-lands, the best of which are in the two Flanders; and the arable lands occupy one-half. The best are in the two Flanders, Hainault, and Brabant. In these provinces no waste land whatever is to be seen; but in Antwerp, Limburg, and Luxemburg, it covers a considerable extent of country. Associations have recently been formed for the purpose of cultivating the waste lands of the great Campine plain in Limburg, and for clearing some of the forests of Luxemburg.

Agriculture of the Polders.—The name polders is given to tracts of low alluvial soil, artificially gained from the sea or the Scheldt, by lofty embankments, and drained by numerous intersecting ditches, from which, in some instances, the superfluous water is continually pumped by the agency of windmills. These embanked enclosures are highly cultivated, and form an extensive chain of square green islands along the muddy banks of the Scheldt and its affluent the Rupel, in the provinces of Antwerp and E. Flanders, and on the sands of the sea-shore. Twice a day the tides reach the broad and high digues or embankments, which bound, on each side of the Scheldt, a wide extent of alluvial ground, and protect the adjacent country from inundation; and while the waters remain upon this surface they deposit a fine argillaceous and calcareous mud, the *débris* of various vegetable and animal substances, collected in their drainage of the loose and rich soils of Flanders, and brought from the ocean. These alluvial accretions, when first enclosed by dykes, become naturally covered by a fine tender grass, and are called in Flemish *schors*. They are first sown with *colza*; that is, oleaginous colewort, *Brassica oleracea arvensis*, not the *Brassica Napus* of

Linnaeus, but the *Brassica campestris* of De Candolle. The crops of this vegetable on the polders are always very abundant. When these enclosures have been completely brought into cultivation, which requires several years, they consist partly of natural meadow, affording excellent pasturage for numerous herds of cattle, and partly of arable lands, on which are raised the finest crops of all kinds of grain; especially barley, 8 or 10 quarters per acre, and oats 10 or 12 quarters per acre. Two crops in the year are commonly obtained; no repose is given to the soil, and it needs no manuring; but in the course of time it becomes too compact and adhesive, and greatly decreases in fertility, if not renovated by artificial assistance, so that the older lands of this description are fallowed once in six years, and the rotation is winter barley, beans, wheat, flax, clover, and potatoes. The colour of the soils, in their primitive state, is a bluish grey, which is owing to the presence of a considerable quantity of the oxide of iron. The embankments are made in some instances by the government, in others, by companies, or individuals, under a grant and tenure of the enclosures, from government, for about twenty years, either rent free, or for small annual payments. It is calculated that about 4-5ths of the surface which, in the sixteenth century, was submerged by the Scheldt and the sea, now produces agricultural crops, and is studded with numerous farm establishments. The area of each polder, the chemical analysis of their soils, and various other particulars, are given in M. Vandermaelen's Geog. Dict. of the Provinces of Belgium. They vary from 20, 50, and 100 acres, up to 1,000. The polder of Snaerskirke, on the sea-coast, near Ostend, contains 1,800 acres, divided by ditches into rectangular fields of 13 acres each. The bank or dike is 15 ft. high, 30 ft. in breadth at the base, and 19 ft. at the top. The fatal devastations which have been occasioned by the concurrence of high winds and tides in rupturing the dikes that are reared as barriers to the rivers and the sea, render it an object of great importance with the government to superintend the maintenance of their efficiency. A system of public regulations for this purpose is therefore enforced with great vigilance and promptitude.

Agriculture of the Bruyères.—The sterile heaths which extend over the NE. parts of the provinces of Antwerp, and the NW. of Limburg, as well as over many sq. m. of the surface of the SE. portion of the kingdom, are called *bruyères*, from the fact of their chiefly producing the heath-plant, *bruyère*, *Erica Brabantica*. It grows spontaneously and abundantly in the most arid sands, as well as in humid marshes; and it naturally possesses so much vitality and prolificness that its complete eradication cannot be effected without considerable trouble. In summer its profusion of flowers very agreeably varies the dreary aspect of the level wastes on which it flourishes; and they also afford plenty of food for the bee; but the honey it produces is not of a good description. The plant is browsed by sheep; gathered for littering cattle; used in tanning; and applied to several other useful purposes. The great obstacle to the cultivation of the heath lands, or *bruyères*, is the frequent occurrence of beds of ferruginous turf and stiff clay near the surface; however, many extensive tracts have been brought into profitable cultivation by the plentiful application of rich manures, and the laborious attention and management for which the Belgic husbandman is so proverbially distinguished. The surface on which he begins to operate is a very thin external coat of black mould, consisting of vegetable putrefactions. This, in some parts, is sufficiently deep to recompense the labour of plough-

ing it into the subjacent sand, with copious quantities of dunghill manure; and from this combination are obtained crops of potatoes, barley, oats, clover, and buckwheat. Sheep are remarkably fond of the scattered blades of natural grass on the *bruyères*, and cattle are fed in great numbers on those parts of them which are laid out in pasture, consisting for the most part of spurry, *Spergula arvensis*, which is their favourite food.

Agricultural Produce and Practice.—Corn, flax, hemp, and timber, constitute the most important materials of the agricultural wealth of Belgium. The soil, artificially enriched, produces commonly more than double the quantity of corn required for the consumption of its inhabitants, which is computed at 6,000,000 hectolitres per annum. The average produce of the soil in the various provinces is shown in the subjoined table, which gives the results of 1861—a medium year in every respect.

Provinces	Wheat	Rye	Barley
	Amount of Produce per Hectare	Amount of Produce per Hectare	Amount of Produce per Hectare
Antwerp . .	Hectol. 18.55	Hectol. 19.44	Hectol. 26.14
Brabant . .	17.53	19.42	31
Flanders, West . .	21.62	23.79	37
Flanders, East . .	22	25	38
Hainault . .	19	20.80	38
Liege . .	19	18	24
Limburg . .	16.69	16.65	25
Luxemburg . .	15	18	21
Namur . .	18	17.90	28
Average . .	18.48	19.88	29.79

Provinces	Oats	Potatoes	Flax
	Amount of Produce per Hectare	Amount of Produce per Hectare	Amount of Produce per Hectare
Antwerp . .	Hectol. 36.89	Kilos. 8,800	Kilos. 383
Brabant . .	42	7,264	543
Flanders, West . .	42.16	7,623	599
Flanders, East . .	49	8,190	600
Hainault . .	50	5,130	475
Liege . .	35	9,000	—
Limburg . .	34	7,896	361
Luxemburg . .	31	6,237	—
Namur . .	36	7,545	—
Average . .	39.55	1,720	493

The hectare is equivalent to 2.4711431 English acres; the hectolitre to 2.7512085 English bushels; and the kilogramme to 2.2046213 English lbs. avoirdupois.

The average prices, for the whole of Belgium, of the above-mentioned kinds of corn and potatoes, during the nine months ending September 30, 1861, were as follows:—

	Fr. s.
Wheat, per 100 kilogrammes . .	32 84
Rye	21 9
Barley	20 87
Oats	23 77
Potatoes	10 50

(Report of Mr. Herries, Her Majesty's Secretary of Legation, dated Brussels, March 1862.) The kinds of agricultural produce in Belgium are very numerous, including the following grains and plants, all of which are cultivated in Flanders:—Wheat (white and red), rye, barley, oats, colza, buckwheat, hemp, flax, potatoes, tobacco, hops, turnips, red carrots, parsnips, peas, beans, clover, spurry, lucerne, madder, saintfoin, chicory, beet, woad, and poppies.

The central part of the kingdom, contained

within a line passing through Malines, Termond, Tournay, Mons, Namur, and Louvain, includes much of the richest portion of the soil; but it does not, on the whole, exceed the average fertility of the inland counties of England, and must decidedly be considered inferior to the rich alluvial soils denominated the *carées*, in Scotland. The land in general is not so neatly tilled as in the best English agricultural counties. The husbandry of the central parts differs considerably from that of Flanders. The farms are larger, and less carefully cultivated. The spade is less used in the fields, and they have consequently not the same resemblance to gardens. In Hainault and Antwerp the cultivation of flax and hemp is becoming a primary object; but these valuable crops are produced to far greater extent in the two Flanders, the agriculture of which is so highly reputed as to require a separate notice, which hereafter is given. In the richer parts of Brabant, flax, hemp, and colza are extensively cultivated, with much manuring, and a succession of wheat. Rye, in this province, is always a large crop, for bread and distillation. The oleaginous plants flourish in all the provinces, and the culture of hops is very successful in Brabant, Flanders, and along the valley of the Meuse, in the province of Liege. Maize has been partially introduced, and found to succeed. Madder is grown chiefly in Flanders and the province of Antwerp. Most of the principal farms throughout the kingdom possess distilleries, and the stalled cattle are fed upon the refuse wash. With the exception of Flanders, no particular rotations of crops are adhered to. The fields are cropped according to the wants of the farmer and the state of the land. An abundance of manure allows of rapid returns of white straw crops. All the clover, and other forage crops, are used green, in the stalls and stables, as food for cattle and horses. Little hay is made, in proportion to the number of cattle kept throughout the winter; so that, on the failure of green food, the chief recourse is to roots, namely, turnips, carrots, and potatoes. The stall-fed cattle furnish ample supplies of manure, the liquid part of which is collected in large tanks of brickwork, and is either carried out and poured over the land, or is used to moisten and accelerate the fermentation of the dry dung-heaps and composts.

Flemish Husbandry.—Flanders, in consequence of its great commercial prosperity, was remarkable for the advanced state of its agriculture long before improvement in this important art was observable in any country N. of the Alps and Pyrenees. Bruges and Ghent were important commercial towns in the 11th century, and supplied the various courts of Europe with the rich silks and tapestries which then were their chief luxuries. The commerce and agriculture of Flanders grew together; and in order to account for the remarkable excellence of the Flemish husbandry, which has been celebrated for upwards of 600 years, it is necessary to keep in view the close connection which in that country exists between the farmer, the manufacturer, and the merchant; and the efforts of a continually increasing population, in stimulating the exertions of those who provide the necessities of life. In Flanders, as in every country densely populated, where the villages are thickly scattered, and where, by means of water carriage on rivers and canals, manure can be transported to the land at a trifling expense, fallowing and laying down to pasture are necessarily superseded by increased tillage and manuring. It is remarkable that, in China, where a similar density of population exists, there prevails the same anxiety as in Flanders to collect every substance and liquid that can possibly serve to increase the fertilising

powers of the soil; and that in both these countries ordure of all sorts is carefully collected, sold as a most valuable article of commerce, and applied in the fields and gardens as the *ne plus ultra* of stimulating manure. Were the whole of Flanders laid out in large farms, and a third or fourth part fallowed every year, or a half left in natural grass, the population could not be fed; and instead of exporting agricultural produce, as at present, a great importation would be requisite, to supply the demand of internal consumption. Besides, the poor soils of Flanders could never be recruited by such a course. Without repeated manuring, there could be no vigorous vegetation; and the land left to nature would return to its original state of heath. The necessity of providing for constantly increasing numbers of inhab. produced the agricultural perfection for which Flanders has long been renowned; and the demands of commerce and manufactures have so multiplied the objects of cultivation, that flax, hemp, the oleaginous seeds, and various other plants required for the arts, very often produce a greater profit to the farmer than the farinaceous grains. The very large produce obtained by the Flemish farmer is solely attributable to indefatigable industry, for the soil is naturally poor, and the climate is by no means especially favourable, the winters being longer and more severe than in England. Three or four ploughings, and two or three harrowings, are commonly bestowed upon each crop. The collection and application of manure is also a great principle of Flemish husbandry. In Flanders nothing can be effected without abundance of manure; and, consequently, the greatest care is taken to procure it. The maxim is, no forage no cattle; without cattle no manure; and without manure no crops. The stall-fed cattle are the principal source of supply; but every expedient is resorted to, in order to increase the quantity and improve the quality. All kinds of animal and vegetable matters are carefully collected in pits walled with brickwork, where they undergo the putrefactive process, by being mixed with substances already partially decomposed. Another indispensable and universal auxiliary of the Flemish farmer, is the tank of liquid manure, collected from the drainings of the stables, cow stalls, and dunghills, and from sources which in England fill the cesspool (*vidange*). In Ghent, the sum received by house servants, for liquids collected for manure, often amounts to as much as their wages. The liquid manure is carried to the field in water carts, and carefully distributed over the surface of the land shortly previous to the sowing of seed, especially that of flax. Every farm-yard possesses one of these tanks, which are commonly of large dimensions—about 40 ft. in length, by 14 in breadth, and 8 in depth; and usually constructed beneath the stalls for cows. An acre of land destined for flax receives very commonly 2,500 gallons of this animal liquid subsequent to an abundant application of solid manure, which is deeply ploughed into the soil. The efficacy of the liquid is often heightened for flax, by dissolving in it large quantities of rape cake. Every distillery of moderate extent has fifty or sixty head of cattle constantly stalled, and fed upon the grains and refuse wash. These establishments were formerly very numerous; but the duty on spirits, and the interference of the government, have much reduced their number, and consequently occasioned a deficiency of manure and of crops; as it is estimated that every beast produces annually ten or twelve tons of solid, and twenty-six hogheads of liquid manure. Large quantities of peat ashes, imported from Holland, are used as a dressing for clover; and lime, pow-

dered bones, marl, and the dung of pigeons, are used in particular districts.

The spade is one of the most important implements in Flemish agriculture, and is used to a much greater extent than in any other country. The trenching-spade is constantly employed on all the light lands, and the blade of the Flemish hoe, a most efficient instrument, resembles and operates as a substitute for that of the spade. Indeed, the garden has evidently been the original model of the Flemish farms, and those of forty or fifty acres must still be regarded as enlarged gardens. In comparing the cultivation of land in Flanders with that of England, we can only adduce the large gardens in the neighbourhood of London, where the common kinds of vegetables are raised for supplying the markets; where green crops are cut early for horses and cows kept in London, and where the soil is continually enriched with the manure London supplies. By the prosecution of spade husbandry, an industrious Fleming, with fifteen acres of good light land, brings up his family in decent independence, and in the course of his life accumulates sufficient means to put them in possession of a little farm of their own. There are many small proprietors who have risen slowly by the labour of their own hands; and their habitations show, by the great care and neatness observed in every particular, that an honest pride is felt in possessing this reward of industrious exertion. Incessant labour of the body, and occupation of the mind, are not regarded by the Flemish peasant with discontent, for to the one they are found to secure good health, and to the other tranquillity.

The farms in the Pays de Waes, between Ghent and Antwerp, are cultivated with astonishing method and neatness, and afford the most perfect specimens of field culture on the principles of gardening. The soil is artificial, and the result of centuries of systematic manuring, which has converted a barren sand into a rich black loamy mould. The fields, as in all parts of Flanders, are enclosed by hedges, and they are remarkably small—from half an acre to an acre; every part of them is kept perfectly free from weeds, and they are elevated in the centre, so as to have a gently inclined slope towards the extremities, where ditches carry off excessive rain, and prevent injury and reduction of the soil. Nearly similar care and preciseness are observable in the whole of W. and E. Flanders; but, while the Flemish farmers are greatly superior to the English, in minute attention to the qualities of the soil and to circumstantial particulars of cultivation, in the systematic economy of land and the judicious succession of crops, they are much inferior in amount of capital, in varied and improved implements of tillage, and especially in the choice and breeding of cattle and sheep.

The extent of farms in Flanders, and throughout Belgium, very rarely exceeds 100 acres. The number containing fifty acres is not great, but those of twenty, fifteen, ten, and five acres, especially between ten and five, are very numerous. The extensive manufactures which formerly flourished in Belgium collected a dense population of artisans in the neighbourhood of the great towns; but when the busy scene of manufacturing industry was transferred to other countries, this population was deprived of its means of handicraft employment, and was obliged to resort to the cultivation of the soil for subsistence. Such appears to have been the chief, though possibly not the sole, origin of the still prevalent system of small farms, which are generally cultivated by the holder and his family without any other assistance.

Crops in Flanders.—Great attention is bestowed upon the preparation of the soil, so as to secure the most abundant crop from the smallest quantity of seed. About one-third less is used in Flanders, for broadcast, than in England for drilling.

Rye is a very luxuriant, and a principal crop, as it forms an important article of consumption for bread among the working classes. The crops of wheat are uniformly fine, and free from smut and mildew, which are effectually prevented by carefully selecting the seed, by changing it every second year, and by steeping it in a solution of blue vitriol, or copper (sulphate of copper); four ounces in four gallons of water, for three bushels of grain. After thoroughly stirring, skimming off the light grains, and remaining half an hour, the grain is strained off in baskets, washed in pure water, and when dried, is ready for sowing. It is steeped by some in brine, and dried by sifting lime upon it. One bushel of seed wheat produces above twenty bushels. Barley is a crop of much importance, malt liquor being the common beverage of all classes of the population. The winter barley, or *sucron*, is the favourite kind. It is sown in autumn and reaped in July. Oats thrive well, with little manure, in almost every soil of Flanders. Buckwheat is raised chiefly as food for poultry and pigs, and for distillation. Peas, beans, and tares, are commonly cultivated as fodder for cattle. Clover is the glory of Flemish farming, and in no country is it found in such perfect luxuriance. Repeated ploughings, rich manuring, and a vigilant prevention of weeds, serve to produce a vigour and weight of produce which is surprising. Peat ashes from Holland, about forty bushels per acre, are invariably used as a dressing for clover. From Flanders this valuable grass was first introduced into England. It is a crop of great value, and indispensable to the Flemish farmer, who ploughs all his land, and feeds his cows and horses on green food brought to the stall. The common red species is more cultivated in Flanders than the other varieties. The liquid manure from the tank is believed to produce a strong taste, with which the cattle are disgusted. The potato crop, at the season of its full growth, also exhibits a remarkable luxuriance. The stalks exceed a yard in height, and their tops form a surface as level as the land from which they rise. The produce is often ten tons per acre, and it constitutes one of the principal articles of food of all classes of the population, and of the farmer's live stock, especially cows and horses. This useful root was introduced into Flanders from England at the end of the sixteenth century, and it has long appeared in each rotation of the Flemish crops. Turnips and carrots are extensively cultivated for stall-fed cattle, after rye and barley. The turnips, in size and weight, are much inferior to those of Norfolk, and the carrots also yield a comparatively poor return. The cultivation of the white and yellow beet, for the extraction of sugar, is continually becoming more extensive, and several large factories have been established for the manufacture of this important article of commerce. The chicory-plant, of which the root, when properly torrifed, is a very good substitute for coffee, is raised in large quantities in Flanders, where establishments are formed for its preparation. The flax crop is an object of the greatest care and exertion. Its cultivation is thoroughly understood, as well as every process of its preparation for the loom; and the land which produces this plant exhibits all the neatness and precision of a carefully managed garden. Flax is a staple commodity in Flanders, it serves to employ a great portion of the popu-

lation, and it is largely exported. The finest description is raised in the neighbourhood of Courtray. Crops of flax produced from native seed are found to be superior in quantity, but inferior in quality, to those produced from the seed of Riga, which is therefore procured by the Flemish farmers every year. Hemp is cultivated with great care, but not to the same extent as flax. Colza (*Brassica campestris*) and a species of poppy, the *oilette* (*Papaver somniferum*), are extensively cultivated for the oil contained in their seeds. Woad is raised for its dye of blue, weld for yellow, and madder for red. The two Flanders, and the province of Antwerp, produce a considerable quantity of madder, but the whole annual produce of the kingdom is insufficient to supply a fourth of the quantity consumed at one of the large factories of cotton and woollen: those of Ghent alone make use of madder to the value of six millions of francs per annum. Woad thrives best on gravelly and sandy soils; but madder requires land of the best description, and abundance of manure. The cultivation of tobacco was common several years ago in nearly all the provinces, but at present it is confined to Flanders; and the produce now is reduced to about one-tenth of its former amount. The best tobacco is raised and prepared at Werwick, in the neighbourhood of Ypres. An acre produces about 4,000 lbs. The culture of this plant requires a great amount of labour, attention, expense, and manure. Hops are grown in small patches on almost every farm in Flanders. Pastures of grass are scarcely to be met with, except in the polders, and the vicinity of Dixmunde and Furnes, where they are most luxuriant, and afford grazing for numerous cows; stall-feeding, however, is universally practised. One beast for every three acres of arable land is a common proportion, and where spade husbandry prevails, a larger number are found. Chopped turnips, carrots, and potatoes, boiled up with the meal of beans, rye, or buckwheat, constitute the usual food of cattle, and it is called *brassin*. Large quantities of good butter for home consumption and exportation are produced from the milk of cows thus fed, with the addition, in summer, of clover and other green fodder, cut and brought to the stalls. The churns are ingeniously worked by a horse. Cheese rarely is made in Flanders, almost all the demand for it being supplied by importation from Holland.

The land in Flanders is generally freehold, or the property of civil or religious corporations. The estates are small, and if not cultivated by the proprietor himself, which is more frequently the case, they are let on leases generally of 7, 14, or 21 years' duration. The occupier is bound to live on the premises, pay taxes, effect repairs, preserve timber, not sub-let without a written agreement, and to give certain usual accommodations to the next tenant at the end of the lease. The farm establishments are always convenient, and generally more ample, in proportion to the extent of the land, than in England and Scotland. In addition to the usual accommodations, the larger farms are commonly provided with a distillery, a crushing-mill for the preparation of oil from the colza and poppy, and sometimes a mill for grinding corn.

Peasant Farmers.—The small farms, between 5 and 10 acres, which abound in many parts of Belgium, have much resemblance to the small holdings in Ireland; but while the Irish cultivator exists in a state of miserable privation of the common conveniences of civilised life, the Belgian peasant farmer enjoys, comparatively, a great degree of comfort. His cottage is built substantially, with an upper floor for sleeping, and is kept in

good repair: it has always a small cellarage for the dairy, a store-room for the grain, an oven, an outhouse for potatoes, a roomy cattle-stall, a piggery, and a loft for the poultry. The furniture is decent, the bedding amply sufficient, and an air of comfort and propriety pervades the whole establishment. The cows are supplied with straw to lie upon; the dung and its drainings are carefully collected in the tank; and a compost heap is accumulated from every possible source. The premises are kept extremely neat, with a constant observance of the most rigid economy, industry, and regularity. No member of the family is ever seen ragged or slovenly; but all are decently clothed, though it be with the coarsest materials. The men universally work in linen canvas frocks, and both women and men wear wooden shoes. Rye bread and milk often constitute their diet, though recently wheaten bread has become a more general article of consumption. The great superiority of the Belgian over the Irish peasant farmer is owing not to any advantages of soil or climate, but to a better system of cultivation, and especially to established habits of sobriety, forethought, and prudent economy. The points of his superiority consist—1st, in his keeping as many stall-fed cattle as possible, to secure a supply of manure; 2nd, in carefully collecting, and skilfully applying, manure; 3rd, in adhering to an advantageous rotation of 6 or 7 crops, by which is obtained the utmost amount of produce without any following. On farms of 6 acres are found no horse, plough, nor cart: the only agricultural implement, besides a spade, fork, and wheelbarrow, is a light wooden harrow, drawn by hand. The whole of the land is dug and deeply trenched with the spade, and the whole farm work is carried on without any assistance beyond that of the family. The live stock commonly consists of two cows, a calf or two, one or two pigs, a goat or two, and some poultry. All the different kinds of crops which have already been noticed, are cultivated upon these small establishments with the same care and success as on the finest farms in the kingdom. (Mr. Nicholl's Report on Holland and Belgium, *passim*.)

Horticulture.—Numerous and extensive gardens are cultivated in various parts of the kingdom for the supply of the town markets with culinary vegetables, and the common hardy fruits, which are produced in great abundance and excellence. The annual value of this kind of produce is estimated at a million sterling. Apples and cherries are especially good and plentiful, and are found in every farm-house garden in the kingdom. The culture of the vine is attended with considerable success in several elevated localities on the banks of the Meuse; and some of the wine there produced is far above mediocrity. From Belgium England obtained the cabbage, lettuce, and gooseberry.

Floriculture.—In Belgium the culture of flowers is an object of as much gratification as in Holland, and the climate is far more genial for bringing forth the beauty of these amiable ornaments of civilised life. The last classification of the Belgic population in 1836 shows that, in the whole kingdom, there were then 113 professional florists, of whom two-thirds were in E. Flanders and Brabant. The tulip, carnation, and wall-flower, were brought into England from Belgium.

Manufactures.—Wool, in Belgium, is the object of an immense industry. The manufactures of all kinds employ a quantity of foreign wool, the import of which, in 1862, amounted to 18,614 tons, of the value of 56,259,000 francs; in 1863, to 14,362 tons, valued at 43,705,000 francs; and in 1864, to 21,586 tons, valued at 66,892,000 francs. Thus the average annual value of the wool imported is

above two millions sterling. It is imported from Saxony, Prussia, Silesia, Poland, Bohemia, Hungary, Moravia, and the southern provinces of Russia. The annual production of the indigenous wool, of pure and mixed breeds, scarcely amounts in value to 200,000 francs.

Woollen cloths form one of the most important branches of manufacturing industry, and they are greatly superior in quality to those produced in France. The dye of the black cloths, which are made in large quantities, is considered to be more permanent, deep, and beautiful, than that of the best English cloths. The casimirs of the Belgic looms are also as excellent as those of France. The chief seats of the woollen manufacture are at Verviers, Liege, Dolhain, Limburg, Hodimont, Stavelot, Thuin, Ypres, and Poperinghe. The woollen manufactures of Verviers and its environs employ alone a population of 50,000 operatives. Flannel, coverlets, serge, bolting-cloth, camlet, &c., are made in all the provinces of the kingdom, but principally in Antwerp and Hainault. The carpet manufacture of Messrs. Schumacher and Co. at Tournay is the most extensive and important in Europe. It produces all kinds of what are called *Brussels* carpets, from those which adorn the sumptuous palaces of kings, to such as are used for the floor of the cottage. Besides the principal manufacture at Tournay, there are several others of secondary rank in the same town; in Brussels, Antwerp, Ghent, Bruges, and Courtray.

Belgium produces a large quantity of flax. The various manipulations to which this product of the soil is submitted form one of the most ancient and important sources of the manufacturing wealth of the kingdom. The mode of culture, the order of crops, the preparation of the soil, the system of manuring, the careful cultivation of the plant, and the process of steeping, are so well understood in Belgium, that its flax is always in great demand throughout Europe. England and France buy nearly all the flax which is produced in the provinces of Hainault, Brabant, and Namur. The two Flanders supply a very large quantity to the English market.

Linen manufactures have been long extensively carried on in Belgium, and their products have been deservedly celebrated for their excellence. Of late years, however, they have been, for the most part, far from flourishing. The businesses were diffused over the country, particularly over East and West Flanders, and were carried on in the cottages of the peasantry much in the same way as the Irish linen trade was formerly diffused over Ulster, and the lace trade over parts of England. But since the successful application of steam to the spinning and weaving of flax and the production of lace, the foreign demand for the linens and laces of Flanders has greatly declined; and the population depending on these branches of industry has been exposed to the greatest privations. In 1864, there were no fewer than 120,000 female spinners in E. Flanders, and 95,000 ditto in W. Flanders, exclusive of a large number of weavers, all of whom were in a very depressed and impoverished condition. There can be no doubt, that here as elsewhere, the old domestic manufacture of linens and laces will be extinguished; and that the manufacture, if carried on at all, will have to be carried on in factories.

The production and manufacture of silk has recently become an important source of Belgic industry. The breeding of the silkworm was introduced into Belgium in 1826, and this department of business is continually increasing under the fostering care of the government. The mulberry appears to thrive in the soil of the country,

and the number of young plants now cultivated exceeds two millions. In the opinion of the best judges, the Belgic silk is quite as beautiful and valuable as the choicest kind produced in the French provinces of Piedmont and Dauphiné, which, in fact, is the finest in the world. The most extensive establishments for rearing the silkworm are at Meslik l'Évêque, near Ath, and at Uccle, near Brussels. Antwerp, which is the principal centre of the manufacture, contains establishments for the production of various kinds of silk fabrics. Velvets, satins, gros de Naples, and other stuffs, obtained formerly from Naples, are made with a beauty of tissue and tints that cannot be surpassed. The silk factory at Uccle is remarkable for excellent dyed and printed fabrics.

'Brussels lace,' the thread of which is made of the finest flax of the country, is superior to every other description made in Belgium or in foreign countries. Its peculiar qualities are delicate fineness, and a great elegance and variety of design. The patterns are all worked separate, and are stitched on. The flax employed grows near Hal, and the best at Rebecque. The finest description costs from 3,000 to 4,000 francs a pound, and is worth its weight in gold. The spinning is performed in darkened rooms, with a beam of light admitted only upon the work, through a small aperture. The lace of Malines is second in rank, with respect to richness and elegance. It is made also at Antwerp, Lierre, and Turnhout. The cities of Bruges, Menin, Ypres, Courtray, Ghent, Alost, and St. Nicolas, employ a great number of hands in the manufacture of Valenciennes point. Mons contains a school for special instruction in the art of making the finer kinds of lace.

The principal manufactures of *tulle* are at Ghent, Termonde, Mechlin, Brussels, and Bouillon. The excellence of the Belgic embroidery on *tulle* is universally acknowledged, and a great number of females are employed in this department, the earnings of each being about 50 cents a day.

The manufacture of *gold and silver lace* was formerly a considerable source of wealth, but it is now much reduced by foreign competition. However, the qualities of this article still produced in Brussels are fully equal to those of the best description manufactured in Paris.

Ribbons of every species are made principally at Antwerp, Tournay, and Ypres. This branch of industry formerly employed 1,000 looms and 12,000 persons, and produced annually about three thousand million yards of ribbon; but the manufacture, in consequence of large importations of cheaper kinds from France and Germany, has very considerably decreased.

The manufacture of *hosiery* employs about 60,000 persons. Its principal centre is in the arrondissement of Tournay, where 2,500 looms are kept in activity. About the same number are found in other parts of the kingdom. The coarser articles are more successful, and are partly exported. Finer kinds are imported chiefly from Saxony. At Arendonck, in the province of Antwerp, about 226,000 pairs of woollen hose are annually manufactured, and the most beautiful articles of knitting and netting are produced at Brussels and Tournay.

Hats of felt, or beaver, are made sufficiently good to meet the competition of foreign manufacturers,—and those of silk are of very superior quality. The latter kind are made in nearly every city in the kingdom, so that the manufacture of beaver hats has consequently much decreased. Straw hats are abundantly made in Brussels, Ghent, and Antwerp.

The preparation and various manufactures of

leather are carried on with undiminished success. The principal tanneries are at Stavelot and Liege; there are also many at Brussels, Namur, Antwerp, Ghent, Ypres, and Tournay.

Paper factories exist in every province, and the manufacture of this important article is progressively improving, and in recent years much has been exported to England. It was stated, in 1864, that a portion of the large supply required for the 'Times' newspaper was made in Belgium.

Printing is carried on extensively, forming an important department of national industry. The printing of Belgium is in no respect inferior to that of Paris, in beauty and neatness of execution, or correctness of text. One printing establishment at Brussels now produces more than all the presses of the country in the time of its subjection to the French Government. This remarkable increase arises from the reprehensible system of pirating the best works of Paris, which immediately appear in Belgium commonly at about half the original price. They can be sold at this reduced rate, the paper used in their manufacture being usually inferior, and the publishers having no copyright to pay. It need scarcely be said that the system is, notwithstanding, most injurious to the interests of literature, and is discreditable in the extreme to the Belgians.

Lithography has attained a high degree of excellence, and some of the productions of Brussels will bear a comparison with the finest specimens of German artists.

Cabinet-making is a source of employment to numerous skillful operatives. Brussels is its principal seat; and it exports various articles to Germany and America.

The only establishment for the manufacture of clocks is at Chenée, near Liege. The machinery is moved by steam. But all kinds of time-pieces are supplied chiefly from France and Switzerland. With the view of promoting the home production of these useful instruments, the government annually awards premiums and medals for the most perfect specimens produced by native artists.

Metallurgy.—The abundance of metals and combustibles in Belgium has occasioned the establishment of several extensive forges for the melting and manufacture of iron, copper, and tin. There are three principal groups of forges,—1. On the banks of the Meuse, extending from its entrance into Belgium to the limits of Namur and Liege; 2. Between the Meuse and the Sambre; and 3. At Charleroy. Besides these principal groups, there are numerous forges, foundries, and tin-works along the banks of the Hoyoux, the Ourte, and its affluents. All the mines, quarries, steam-engines, and metallurgical establishments of Belgium are under the supervision of an inspector-general and eight inspectors, all subordinate to the 'Directeur-Général des Ponts et Chaussées et des Mines' in the Ministry of Public Works. They are divided into two directions and eight arrondissements, as follows:—

Directions	Arrondissements
1. Hainault . . .	1. Mons and Tournay 2. Charleroy 3. Namur, province of 4. Luxemburg, province 5. Liege, left bank 6. Liege, right bank 7. Huy 8. The five Northern provinces
2. The other eight provinces . . .	

There is, moreover, a body of five members, called 'Conseil des Mines,' invested with certain de-

liberative attributions, especially referring to concessions and extensions of mines. The organisation and taxation of mines is mainly regulated by the laws of the 21st April, 1810, and 2nd May, 1837. All mining operations must be previously authorised by a Royal Act of Concession, which confers perpetual property in all deposits of any specified mineral within a certain defined area on the payment of certain dues to the owner of the land, as well as to the Treasury. The concession is always refused if the existence of the mineral is not proved to the satisfaction of the Council of Mines. If, in the process of working, another mineral should be discovered, a fresh concession must be applied for. This is generally, but not necessarily, granted to the same 'concessionnaire.' The tax on mines is divided into the 'redevance fixe' and the 'redevance proportionnelle,' the former amounting to 10 centimes per hectare (247 acres), the latter to 2½ per cent. of the net produce. Both of these charges go to the Treasury. There are besides two similar charges which vary in different concessions, payable to the owners of the surface: a fixed charge, generally amounting to 1 franc per hectare, and a graduated rate of from 1 to 3 per cent. of the net produce.

The importance of the metallurgical industry of Belgium is shown by the subjoined statement, which gives the official of the several branches during the years 1859 and 1860.

	1859	1860
	Francs	Francs
Metallic Ores . . .	14,061,737	13,576,202
Coal . . .	104,006,201	107,127,282
Metals, Glass, & Alum	121,207,878	129,639,113
Marbles, Stones, and		
Slates . . .	15,070,444	17,393,574
Total . . .	254,346,260	267,796,171
Total in £ sterling	10,173,848	10,711,844

The royal cannon foundry at Liege has the requisite apparatus for manufacturing the largest pieces of artillery in iron and bronze, which it produces of the best quality. Establishments for the construction of steam-engines are principally at Liege, Brussels, Charleroy, Tillemont, and Bruges.

Nail-making is an important branch of metallurgy at Liege and Charleroy. In the latter place, about 5,500 hands are employed in this business throughout the winter. Liege is also the centre of a manufacture of *fire-arms*, the produce of which and of various other factories is exported to America, Egypt, Turkey, Germany, Italy, and Spain. The principal kinds manufactured are,—1. Single and double barrelled guns for sporting; 2. Muskets for military use; 3. Common guns for various purposes; 4. Pistols, which, as well as the best description of guns, are made and finished with great care and skill.

The wages of pitmen in Belgium average 912 francs per annum, or 3 francs 4 centimes per day, reckoning 300 working days in the year. In Hainault a collier earns an average of 969 francs per annum, or 3 francs 23 centimes per day. The average earnings of all ages and sexes employed in and about the mines amounted in 1860 to 708½ francs, or 2½ francs per working day. During the same year the operatives paid on an average 5 francs per head to the 'caisses de prévoyance,' and 11 francs 48 centimes to the 'caisses de secours;' total, 16 francs 48 centimes, or 2½ per cent. of their earnings.

Ample provision seems to be made for the

material welfare of the miner. Of all the 89,373 operatives engaged in this industry, 80,783, or nine-tenths, are affiliated to the 'caisses de secours,' and to the 'caisses de prévoyance.' The former are funds established at every mine for the temporary relief of wounded and sick miners; the latter are funds created by the association of all or most of the mines belonging to each of the six groups, for the purpose of giving permanent relief to disabled miners, or to the widows of those killed by accidents, and temporary relief to their children. Affiliation to these latter 'caisses' is made a condition of all concessions granted since 1840.

The powerful Society of 'La Vieille Montagne' possesses numerous concessions of calamine, lead, pyrites, and coal in different parts of Belgium, Prussia, France, and Sweden. It employed in 1860, 5,627 operatives, representing, with their families, 17,000 individuals, of whom 11,756 live in Belgium or Moresnet. The wages paid by the society in the same year were 3,638,896 francs. No society has made greater efforts to ameliorate the moral and material condition of its servants. It has adopted the plan of encouraging their zeal by ensuring to each one, in addition to his fixed wages, an eventual share in the result of his own labour, calculated on the task-work principle, applied either individually, or to the squad of hands attached to each furnace or workshop. It has founded a 'caisse de secours,' a 'caisse de prévoyance,' and a savings bank, for the exclusive benefit of its own operatives; built dwelling-houses, churches, schools, butchers' and bakers' shops; organised choral unions, archers' and rifle companies, and an annual festival. Its production of raw zinc amounted in 1860 to the enormous amount of 28,925 tons, principally manufactured at Angleur and Tilff, near Liege. The net profits of the society, notwithstanding the constant fall in the price of zinc, were in 1860, 3,118,132 francs, allowing a dividend of 25 per cent. on the paid-up capital of 9,000,000 francs, besides liberal allowances to the directors. Their zinc-works at Angleur are the largest factory in the kingdom, and a model of order. (Report of Mr. Barron, Her Majesty's Secretary of Legation, dated Brussels, April 15, 1862.)

In order to encourage and facilitate improvement in manufactures and industrial pursuits, the government has instituted public exhibitions where only the products of the country and its inhabitants are admitted.

A very considerable part of the revenue of Belgium is derived from a tax on patents, no one being allowed to exercise any trade or profession without a patent, the price of which depends upon the amount of profit obtained. Reports of income are required from each individual engaged in business, and the government assessors exercise inquisitorial power in assigning the citizens to classes of different degrees.

Trade and Commerce.—The commerce of Belgium extends its relations to most parts of the world, and includes every species of indigenous and foreign production. Its average annual value may be estimated at 71 millions sterling, of which 36 millions imports, and 35 millions exports. In 1861, the total imports, including transit, were of the value of 38,952,810*l.*; in 1862, of the value of 41,114,771*l.*; and in 1863, of the value of 42,787,189*l.* The total exports, including transit, amounted to 35,182,351*l.* in 1861; to 37,594,113*l.* in 1862; and to 39,667,701*l.* in 1863. The following table gives the total real value of the imports and exports (exclusive of specie) of Belgium, in 1860 and 1861, which were, in many respects, average years:—

IMPORTS.

	1860	1861
Total Imports (including transit):—		
By Sea {	Franks 279,892,867	336,361,110
„ Land & River {	£ 11,195,715	13,454,444
„ Land & River {	Franks 608,965,668	587,459,160
„ Land & River {	£ 24,358,626	23,498,366
Total {	Franks 888,858,535	923,820,270
Total {	£ 35,554,341	36,952,810
In Transit:—		
By Sea {	Franks 120,572,199	116,871,163
„ Land & River {	£ 4,822,888	4,674,846
„ Land & River {	Franks 319,539,463	292,439,297
„ Land & River {	£ 12,781,578	11,697,172
Total {	Franks 440,111,662	409,300,460
Total {	£ 17,604,466	16,372,018
Entered for Home Consumption {	Franks 451,056,785	516,686,594
Entered for Home Consumption {	£ 18,042,271	20,667,464

EXPORTS.

	1860	1861
Total Exports (including transit):—		
By Sea {	Franks 276,066,458	295,298,973
„ Land & River {	£ 11,042,658	11,811,959
„ Land & River {	Franks 577,372,457	581,259,804
„ Land & River {	£ 23,094,898	23,370,392
Total {	Franks 853,438,915	879,558,777
Total {	£ 34,137,556	35,182,351
Transit {	Franks 440,111,662	409,300,460
Transit {	£ 17,604,466	16,372,018
Belgian Produce {	Franks 413,327,253	470,258,317
Belgian Produce {	£ 16,533,090	18,810,332

The commercial intercourse of Belgium with other states is exhibited in the following statement, showing the value of imports and exports from and to the seven principal countries in the year 1863:—

	Imports	Exports
	Franks	Franks
Germany—Zollverein	204,708,000	62,417,000
France	200,528,000	97,329,000
Netherlands	175,098,000	114,459,000
Great Britain	140,663,000	91,326,000
Russia	40,691,000	33,343,000
United States	40,870,000	26,996,000
Brazil	16,003,000	10,877,000

The articles which Belgium supplies to England are bark, flax, cattle, madder, clover-seed, linen, spelter, books, and sheep's wool; in return for which England sends various kinds of East and West India produce, with cotton fabrics and yarn, earthenware, salt, and coal. A portion of the cotton yarn, cotton cloths, and lace which are exported from England to Belgium, are smuggled across the French frontier. The commercial and manufacturing cities of Belgium are, Brussels, Ghent, Liege, Namur, Tournay, Ypres, Mons, Louvain, Verviers, Mechlin; to which are to be added the maritime cities of Antwerp, Ostend, Nieupoort, and Bruges. Some notice of the great extent of the Belgic commerce in the middle ages is given under the head of *History*; but for more particular accounts of its astonishing prosperity at that remote period, reference must be made to the articles *ANTWERP*, *GHEENT*, and *BRUGES*.

Shipping.—Belgium communicates with the sea by Ostend, by Antwerp, by Nieupoort, by the canal of Bruges to Oostburg, by the canal of Dunkirk

to Furnes, by the canal of Ghent to Terneusen, by the canal of Termondt to Hulst, by the Scheldt from Flessingue to Antwerp, by the Scheldt and the canal of Willebroek from Brussels to Antwerp, and by the canal of Louvain and the Scheldt from Louvain to Antwerp.

The principal ports are Antwerp and Ostend. The former is one of the finest in Europe, and affords reception to vessels of the largest tonnage. The situation of Antwerp, between the N. and S. countries of Europe, and the establishment of a railroad communication thence to Cologne, make it a port of great importance.

The number of merchant vessels belonging to the ports of Belgium, excluding those in the fisheries, is but trifling. And this, notwithstanding premiums are given by government for the construction of ships for sea navigation.

Steam-boats are established on all the principal lines of communication by water, as well within the country as to foreign ports. By far the largest proportion of the foreign trade of Belgium centres in Antwerp. The annexed statement shows the amount of shipping frequenting that port.

Nationality	1862	1863
Great Britain	683	784
France	126	112
America	85	110
Brazils	35	43
Mediterranean	97	87
Spain	155	178
India	30	21
Cuba	47	40
St. Domingo	37	36
Rio de la Plata	128	123
Turkey and Black Sea	165	118
Pacific Ocean	35	53

DEPARTURES.

Years	With Cargoes	In Ballast	Total
1862	1,691	618	2,309
1863	1,752	819	2,571

BRITISH.

Years	With Cargoes	In Ballast	Total
1862	657	105	762
1863	759	149	908

The following was the number and tonnage of merchant vessels of the kingdom at the close of 1862:—

Dec. 31, 1862	Sailing vessels. Steam „ .	Number	Tonnage
		138 7	39,279 5,771
	Total . .	145	45,050

The number of vessels belonging to the Belgian merchant service, at the close of 1861, was 111. At the end of 1860 it was 120.

Ostend is principally a packet station; and Bruges, which in the middle ages was one of the greatest emporiums in the N. of Europe, is now of very inferior commercial importance as compared with Antwerp.

Money.—The franc is the monetary unit of Belgium, and its divisions are made according to the decimal system. There are eleven different Belgic coins; namely, two of gold,—the piece of 40 francs, and the piece of 20 francs; five of silver,—pieces of 5 francs, 2 francs, 1 franc, half a franc, and a quarter of a franc; four of copper,—pieces of 10 centimes, of 5, of 2, and of 1 centime. The florin

of Brabant is worth 1 franc 81 centimes, and it is divided into 20 sous, each sou being again divided into 12 deniers.

The value of the English sovereign in Belgic money is 25 francs 20 centimes; and the English shilling, 1 franc 16 centimes.

Banks and Commercial Societies.—Belgium possesses several large financial establishments, devoted to industrial and commercial operations, which render an immense service to the manufactures and commerce of the country. At Brussels an association was formed, by royal authority, on the 28th of August, 1822, with a charter for 27 years. It is entitled the *Société Générale pour favoriser l'Industrie*, and its object is to develop the resources, and promote the prosperity of agriculture, commerce, and manufactures. Its capital consists, 1st, of 50,000,000 florins (105,820,000 fr.), of which 20,000,000 are vested in real property, and 30,000,000 in 60,000 shares, each of 500 florins, at an interest of 5 per cent.; 2nd, of a reserved fund, formed of a third of the dividends. It issues notes to the amount of 40,000,000 francs, for sums of 50, 100, 500, and 1,000 francs; and its general operations consist of the discounting of commercial bills, receiving deposits, making loans and advances, and in various ways affording accommodation to facilitate commercial transactions. The administrative body is formed of a governor, who is nominated by the king, six directors, a secretary, and a treasurer.

The *Bank of Belgium*, at Brussels, was instituted by a royal decree of the 12th of Feb., 1835, with a charter for 25 years. Its capital is 20,000,000 francs, in 20,000 shares, each of 1,000 francs. The rate of interest is 5 per cent. It operates at once as a bank of deposits, of circulation, of discount, and of accommodation to the commercial classes similar to that afforded by the society just described. A director and four administrators are nominated by the king, and the accounts are annually audited by a general assembly of the holders of ten shares.

Among the dependencies of the *Société Générale* are the *Society of Capitalists*, with a capital of 50,000,000 francs; the *Society of Commerce*, capital 10,000,000; and the *National Society*, with a capital of 15,000,000 francs.

The Bank of Belgium has formed a *Society of United Shares*, with a capital of 40,000,000 francs. Under the same patronage was established, in 1835, the *Bank of Liege*, for 40 years; it has a fund of 4,000,000 francs, in shares, each of 1,000 francs. In 1837, a great financial society was founded, under the title of the *Commercial Bank of Antwerp*; its term is for 25 years, and its capital 25,000,000 francs, in shares, each of 1,000 francs. Numerous other institutions of this nature exist in different parts of the kingdom. The amount of capital possessed by anonymous societies authorised by the government exceeds 100,000,000 francs, or 4,000,000*l*. The conditions of success to these societies are that they confine their competition to such industrial operations as the manufacture of the metals and other substances of intrinsic and permanent value.

Weights and Measures.—Belgium has adopted the weights and measures of the French metrical system; the fundamental principle of which is the measure of length. Its unity, the *mètre*, is the ten-millionth part of a quadrant of the meridional circle of the earth. The length of the *mètre* is nearly an inch less than an English yard and half a quarter; that is, 3·289992 ft. The unit of superficial measure, the *are*, is a square, of which the side is 10 *mètres*. The unit of the measure of capacity, the *litre*, is a cube, of which the side is the

tenth part of a mètre. The *stère* is a cubic mètre. The unit of the measure of weight is a *centimètre* cube of distilled water; that is, a cube of which a side is the hundredth part of a mètre. The itinerary measures are the *decamètre*, *kilomètre*, and *myriamètre*; that is, measures containing severally 10, 1,000, and 10,000 mètres. Measures of length are the *mètre*, or linear unity, the *decimètre*, *centimètre*, and *millimètre*; which severally represent the tenth, hundredth, and thousandth parts of a mètre. Land is measured by the *hectare*, containing 10,000 square mètres; the *are*, containing 100 square mètres; and the *centiare*, which is 1 square mètre. For liquid and dry measure are used the *litre*, which, as already described, is a cube of which the side is the tenth part of a mètre; and the *decalitre*, *hectolitre*, and *kilolitre*, decimal multiples of the litre, or 10, 100, and 1,000 litres. The *decalitre* is a tenth part of the litre. For solid measure are used the *stère* and *décistère*; that is, a cubic mètre and its tenth part. For the measure of weight are used the *gramme*, already explained; the *décaграмme*, or 10 grammes; the *kilogramme*, or 1,000 grammes; and the *quintal*, or 100 kilogrammes. The *décaграмme* is a tenth part of the *gramme*. It may be useful to add the correspondent value of a few of these measures with those of England.

Belgie	English	Belgie	English
Mètre	= 3·280 feet.	Hectare	= 2·478 acres
Millimètre	= 0·039 inch.	Litre	= 1·760 pint
Centimètre	= 0·393 inch.	Décalitre	= 2·201 gal.
Decimètre	= 3·937 inch.	Hectolitre	= 22·009 gal.
Myriamètre	= 6·213 mil.	Gramme	= 15·438 g. tr.
Mètre carré	= 1·196 sq. yd.	Kilogramme	= { 2·680 lbs. t. 2·205 lbs. a.
Are	= 0·098 rood.		

The ancient provincial measures, which are still partially used, are too numerous for explanation.

Roads and Railways.—Roads of the first class, paved or macadamised, and numerous others of secondary character, intersect the Belgic provinces in every direction. After England, Belgium, in fact, is the next country of Europe in which lines of road exist in the greatest number, and are kept in the best condition. They are broader and more regular than those of England, and are better managed than the roads of France: they are also capable of sustaining the greatest extremes and changes of weather, without undergoing any injury worthy of notice. The highways of the state, of the first class, have a width of 19 mètres 50 centimètres; those of the second class are made 13 mètres 60 centimètres in width, if they traverse woods and thickets; if not, 11 mètres 70 centimètres. Provincial roads have a width of 9 mètres 75 centimètres. In these dimensions the lateral banks or ditches are not included. The whole surface occupied by the roads of Belgium is estimated at 70,000 hectares, or 210,000 English acres. Those of the first and second class are made and maintained by the state; the provincial roads are the affair of the provinces; and the smaller by-ways belong to the communes. It is calculated that, in Belgium, a league of road, or 3 m. English, costs in construction 150,000 francs. Besides several new state roads in course of execution, about 30 new provincial roads have been planned and undertaken, and a company has been formed for the opening of 800 m. of roads and canals, on the plan of the Campine.

Belgium is the first state in Europe in which a general system of *railways* has been planned and executed by the government at the public cost. The undertaking was first projected in 1833, and the object proposed was to unite the principal commercial towns on one side with the sea, and on the other with the frontiers of France and Prussia. In this respect Belgium is most favour-

ably situated for a general system of railroads. It is compact in form, of moderate extent, is surrounded on three of its sides by active commercial nations, and on the fourth by the sea, by which it is separated by only a few hours' voyage from England. On the W. side are the two large and commodious ports of Antwerp and Ostend, and its E. frontier is distant only a few leagues from the Rhine, which affords a connection with the nations of central and S. Europe. It is therefore in possession of convenient markets for its productions, and of great facilities for an extensive transit trade. The physical nature of the country is also most favourable, being for the most part flat, and requiring but few of those costly works of levelling, tunnelling, and embankment, which serve to increase so enormously the expense of similar undertakings in England. The government first employed skilful engineers to survey the kingdom, and to determine the main lines, with regard not only to the physical circumstances of the surface, but to the interests of the large towns and their various relations, internal and foreign. In May, 1834, a law was passed for the prosecution of the plan proposed, and the city of Mechlin was made the centre of the system, with four principal branches extending, N. to Antwerp; E. to Louvain, Liege, Verviers, and the frontiers of Prussia, to be continued by a private company to Cologne; S. through Brussels and the province of Hainault, to the French frontier near Valenciennes; and W. by Dendermonde, Ghent, and Bruges, to Ostend. By adopting the lines that concentrate at Mechlin, a larger number of towns are passed than by taking Brussels for the central station, and the distance from Antwerp to the E. frontier is considerably less. The subjoined table gives a view of the railway system of Belgium as existing in the year 1864, distinguishing between lines built by the state and by private companies:—

Lines of Railway	Length of Lines	Cost of Construction
BY THE STATE.—NORTH.	Mètres	Francs
Brussels to Malines . . .	20,982	3,664,544
Malines to Antwerp . . .	26,320	4,812,794
Branch Line of Lierre . . .	6,175	381,864
Total { Mètres . . .	53,477	8,859,202
English Miles . . .	33	£ 354,369
WEST.		
Malines to Termonde . . .	26,254	3,482,450
Termonde to Ghent . . .	31,888	5,291,589
Ghent to Bruges . . .	44,558	5,981,938
Bruges to Ostend . . .	24,672	3,823,003
Branch Line towards Lille and Tournay.		
Ghent to Deynze-Peteghem	43,660	5,246,474
Deynze-Peteghem to Courtrai		
Courtrai to the French Frontier . . .		
Mouscron to Tournay . . .	19,135	3,127,020
Total { Mètres . . .	205,229	30,259,029
English Miles . . .	128	£ 1,210,361
EAST.		
Malines to Louvain . . .	23,583	4,300,437
Louvain to Tirlémont . . .	19,071	6,075,632
Tirlémont to Waremmé . . .	27,024	5,039,395
Waremmé to Ans . . .	18,996	3,484,933
Ans to Meuse . . .	6,610	7,001,550
Pont du Val-Benoit . . .		
Meuse to the Prussian Frontier . . .	39,580	23,675,766
Landen to Saint-Trond . . .	10,220	1,228,805
Total { Mètres . . .	145,064	50,896,708
English Miles . . .	90	£ 2,035,868

Lines of Railway	Length of Lines	Cost of Construction
BY THE STATE.—SOUTH.	Mètres	Francs
Brussels to Tubise . . .	19,510	5,346,822
Tubise to Soignies . . .	17,083	4,933,911
Soignies to Mons . . .	24,533	5,303,661
Mons to the French Frontier	19,545	4,742,273
Branch Line to Brussels .	2,782	1,222,178
Braine-le-Comte to Charleroy	41,600	10,390,436
Charleroy to Namur . . .	38,181	7,875,918
Total { Mètres . . .	163,234	39,815,199
{ English Miles	101	£ 1,592,607
TOTAL { Mètres . . .	567,024	129,850,139
{ English Miles	352	£ 5,193,205
TOTAL COST :—Including	—	190,782,934
Buildings & other Expenses }	—	£ 7,631,317
BY PUBLIC COMPANIES.		
Lierre to Turnhout . . .	37,373	4,300,000
East Belgian . . .	96,065	20,894,775
Manège to Wavre . . .	41,091	9,587,500
Western Flanders . . .	120,988	15,023,294
Lichtervelde to Furnes .	38,847	5,011,269
Entre Sambre and Meuse .	105,241	27,363,187
Namur to Liege and Char-	99,944	45,804,155
leroy to Erquelinnes }		
Pepinster to Spa . . .	12,119	2,777,861
Hainault and Flanders .	120,972	10,972,200
Antwerp to Rotterdam .	119,296	14,927,720
Antwerp to Ghent . . .	49,690	4,901,204
Dendre-and-Waes and	107,119	22,000,000
Brussels towards Ghent }		
Tournay to Jurbise and }		
Landen to Hasselt . . .	75,018	13,740,205
Landen to Aix-la-Chapelle .	93,460	20,796,580
Carrières de Quenest . .	7,500	303,855
Upper and Lower Fleny .	60,760	4,546,273
Mons to Hautmont and St.	62,461	17,254,013
Ghislain . . .	30,426	2,999,352
Chimay . . .	35,727	10,988,483
Centre . . .	207,112	66,614,353
Grand Luxembourg and		
Ourthe Canal . . .		
Total { Mètres . . .	1,506,209	323,805,779
{ English Miles	936	£12,952,231
Total by the State } Mètres . . .	2,073,233	514,588,713
and by Public } Eng. Miles	1,288	£20,683,848
Companies		

It is worthy of remark, that the actual cost incurred in Belgium has exceeded the estimate of the engineers by only 10 per cent.; while in England the estimates, for instance, of the London and Birmingham, and of the Great Western railways, were exceeded in the cost by more than 100 per cent. In cheapness of fares, the Belgian railroads far surpass those of England. The length of the line between Antwerp and Brussels is 27½ m.; the fare, in a first class carriage, 2s. 6d.; while a nearly similar distance in England, from Liverpool to Manchester, is 5s. 6d. In Belgium there are four kinds of railway carriages;—the Berlin, diligence, char-à-banc, and wagon. The charge in the two first is at the rate of 1½d. a mile, and they answer to the English mail and coach, for which the rate of charge per mile is nearly double. The char-à-banc, which are used by great numbers of the poorer class, are but three farthings a mile, and the wagons are only one halfpenny.

The gross receipts of the 352 m. of railway administered by the state amounted in 1862 to 43,478 francs per kilometre, or 2,862½ per mile, of which sum about 57 per cent. was produced by the goods traffic, and 38 per cent. by passengers. It is mentioned, to the credit of the State Railway, that not one passenger was killed in 1861 or 1862; and that of 100,000,000 passengers carried

since 1835, only six were killed by accidents resulting from the service. The net revenue has doubled within the last ten years, and has now risen to a sum equal to 1,508½ per mile. Nearly all the lines conceded by the Government were constructed between 1840 and 1850, by English companies. Private lines that compete in the slightest degree with that of the state are subjected to very onerous terms. They are for the most part branch lines, and although costing less than the State Railway, which includes the principal trunk lines of the country, they produce a much smaller net revenue. The law obliges the State Railway to redeem itself with its own capital; in other words, to purchase itself with its own surplus revenue. The year 1861 was the first year which showed an actual profit on the whole operations from the commencement, irrespectively of the charge for the redemption of the debt. It is expected that the State Railway will have bought itself up in the year 1884, by which time it is calculated the net revenue will amount to 24,000,000 francs, or 960,000½ per annum, or enough to pay the then reduced—through the sinking fund—interest of the national debt. As each conceded railway lapses gratuitously to the state in ninety years from the period of its construction, the entire system will, by the efflux of time, become national property.

Canals.—The length of the canals in Belgium amounts to 460,220 mètres, and that of the navigable rivers to 962,746 mètres. Hence the total extent of inland navigation is 1,422,966 mètres, or 854 English miles. The facilities thus afforded for the transport of heavy merchandise and agricultural produce between the principal places in the kingdom is a great advantage to the prosecution of all industrial and commercial business.

Population.—The population of Belgium, by the census of Oct. 15, 1856, amounted to 4,529,560, divided as follows over the nine provinces.

Provinces	Area	Population
	Hectares	1856
Antwerp . . .	283,310	434,485
Brabant . . .	328,322	748,840
Flanders { West . . .	323,449	694,912
{ East . . .	299,787	776,960
Hainault . . .	372,206	769,065
Liege . . .	289,319	503,662
Limburg . . .	241,315	191,708
Luxemburg . . .	441,704	193,753
Namur . . .	366,181	286,175
Total . . .	{ 2,945,593	{ 4,529,560
	Eng. Acres.	
	7,363,982	

More recent calculations, made on the basis of the *catastral*, or registry of births and deaths, state the numbers of the population on the 1st of January, 1864, at 4,894,071. This gives 440 souls to the sq. m., proving Belgium to be the densest inhabited country in Europe. About two and a half millions of the inhabitants are Flemish, the rest Walloon and French. The Flemings, who speak in general a dialect of the Dutch language, form the population of the *arrondissements* of Brussels and Louvain in Brabant, and that of the provinces of Antwerp, the two Flanders, and the greatest portion of the province of Limburg. The Germans occupy a part of the provinces of Luxembourg and Limburg. The Walloons, who speak a dialect of the ancient French, inhabit the provinces of Liege, Namur, Hainault, the *arrondissement* of Nivelles, in Brabant, and a part of the province of Luxembourg.

The French language is used in public affairs and by all the educated and wealthy classes. Among the Flemish and German inhabitants, nearly all speak French, or at least comprehend it. The population is very unequally distributed throughout the territory. East Flanders, the richest and best cultivated province, contains, in proportion to its extent, the greatest number of persons. The density of its population is twice as great as that of Antwerp or Liege, four times greater than that of Namur, and six times that of Luxembourg. The Pays de Wacs, in the arrondissement of Termonde, in the neighbourhood of Courtray, contains more inhabitants than are to be found in any part of Europe on the same extent of surface.

The population of Belgium has increased very steadily since the establishment of the kingdom in 1830. The following table shows the annual state of the population on December 31, together with the births and deaths during the year, and the density of population per square kilometre:—

Year Dec. 31	Population	Density of Pop. per sq. kilo.	Year Dec. 31	Population	Density of Pop. per sq. kilo.
1830	4,064,235	118	1847	4,338,447	147
1831	4,089,620	119	1848	4,359,090	148
1832	4,103,861	120	1849	4,380,239	149
1833	4,131,861	120	1850	4,426,202	150
1834	4,165,959	121	1851	4,473,163	151
1835	4,208,814	123	1852	4,516,361	153
1836	4,244,598	124	1853	4,548,507	154
1837	4,273,176	125	1854	4,584,822	156
1838	4,317,944	126	1855	4,607,066	157
1839	4,328,677	126	1856	4,529,461	154
1840	4,373,162	128	1857	4,577,236	155
1841	4,388,382	140	1858	4,628,197	157
1842	4,372,706	141	1859	4,671,228	159
1843	4,313,863	143	1860	4,731,957	161
1844	4,258,426	144	1861	4,782,256	162
1845	4,298,562	146	1862	4,836,666	164
1846	4,337,048	147	1863	4,894,071	166

The decrease of population shown in 1839 and following years was occasioned by the separation of one-half of the province of Limburg, and one-third of the province of Luxembourg from Belgium, and the annexation of this territory to the Netherlands. The population thus lost to Belgium amounted to 359,500 souls. The separation took place in conformity with the treaty of London, signed April 19, 1839, and ratified on June 8 following, which definitely settled the limits of the kingdom.

The tendency visible in most European countries, of an agglomeration of the people in the larger towns, is also apparent in Belgium. Of this Brussels is the most striking example. There were, in 1800, only 66,297 inhabitants in the town, and 10,129 in the suburbs of Brussels, while the number at the end of 1863 amounted to above 300,000; the subjoined table shows the increase of population in the town and suburbs since the year 1830:—

Year Dec. 31	Total	Suburbs	Total Pop. of Brussels
1830	98,279	22,702	120,981
1840	106,148	38,478	144,621
1850	142,289	80,135	222,424
1860	176,829	99,119	275,948
1863	186,982	114,357	300,341

Besides Brussels, there are eleven towns in Belgium, with a population of above 20,000 inhabitants, namely, Ghent, 120,134; Antwerp, 114,669; Liege, 97,544; Bruges, 50,286; Malines, 33,855;

Louvain, 32,026; Tournay, 31,172; Verviers, 28,691; Mons, 26,799; Namur, 25,989; and Courtray, 23,228 inhabitants. In the country population, the two sexes are very nearly equal in number; in the towns, there is a uniform excess of females. The proportion of the married to the whole population is as 1 to 2. The proportion of unmarried to married, in an equal number of each, is comparatively greatest among males in the country. The number of widows is double that of the widowers; and this excess is much larger in the town than in the country populations. In 100 houses in the country there are 106 families. In the towns there are 466 persons to 100 families, or something above 4½ to each family; in the country, 503 persons to 100 families, or 5 to each family. The births to the whole population are, in the country, as 1 to 29·9; and in the towns, 1 to 27·7. The deaths to the whole population are, in the country, 1 to 44·3; and in the towns, 1 to 34·9. The total marriages to the total population are as 1 to 184·9; the number divorced, as 1 to 282·84. The proportion of the population of towns to that of the country is as 1 to 3·22. The marriages in the towns are, to those in the country, as 31 to 100, or 1 to 3; which proportion is identical with that between the two kinds of population. The average proportion of births to marriages, in the whole population, is as 4·6 to 1; and of deaths to births, 1 to 1·48 in the country, and 1 to 1·26 in the towns. The illegitimate births are to the legitimate as 1 to 12 in East Flanders, the richest province; and 1 to 33 in Luxembourg, the poorest province in the kingdom: the general average is 1 to 21. The number of paupers (*les indigents*) constitute 14·8 per cent., or 1 in 7 of the whole population; and it is remarkable that in those provinces where industry and commercial enterprise have produced the greatest wealth and improvement, the proportion of paupers exceeds 21 per cent.; while in Luxembourg, the poorest province of the kingdom, it is only 0·7, or less than 1 per cent. The operative classes form three-fourths of the whole population. The number of insane persons, of whom more than one-half are paupers, are as 1 to 1,000 of the whole population.

The government census of the population of Belgium is conducted with the most exemplary attention to systematic method. All the useful points of inquiry are included, so that the results exhibit a most valuable assemblage of scientific data, which in satisfactory completeness and precision are not surpassed by similar documents of any other country. A particular of great importance in the calculations of life insurance—the ages of the living and dying—which in many enumerations of the inhabitants of other countries has been omitted, is ascertained with great care in the population inquiries of Belgium.

Manners and Customs.—The Belgians have been successively subjected to the influence of so many different governments—French, Austrian, Spanish, Dutch—that they possess no distinctive and peculiar national character. The apathy and persevering industry of the Dutch is blended with the vivacity and self-assurance of the French, without producing an agreeable compound. The different provinces exhibit some variety of character and manners. On the borders of Holland the people are generally similar to the Dutch, and adopt their customs, amusements, and dress; but in the southern districts they differ but little from the French in appearance, habits, costume, and language. The Belgian burghers have always displayed a passionate fondness for social liberty—an impatience of control that embroiled them

with their rulers, and involved them in ruinous disasters during successive centuries. Writers of all ages have agreed in describing them as restless and unruly; always treating their best rulers the worst, while the bad overawed them. In the history of no other country do we find so much liberty with so great a disposition to its abuse. They no sooner emancipated themselves from the despotism of their feudal lords, than jealousy of each other's power engaged them in frequent and fatal hostilities; so that 'liberty never wore a more unamiable countenance than among these burghers, who abused the strength she gave them by cruelty and insolence.' (Hallam's Middle Ages, i. 127, ed. 1819.) They confirmed every compact with ceremonious oaths, and broke them under the pretence of encroachments being made upon their liberties; and it is alleged that their descendants are still rather deficient in good faith. 'A facility for making promises and breaking them is said to run through the Belgian people, in all the channels of business, wholesale or retail, of the bureau or in the workshop.' But it is at the same time said that 'this general want of veracity does not extend to great national transactions, nor to the proceedings of diplomacy.' The most obvious peculiarity by which the Belgians are now distinguished is their devout observance of religious rites and ceremonies. Long and imposing processions of the priesthood in their sacerdotal dresses are frequently parading the streets of the principal towns; and it is evident in the whole conduct and customs of the Belgians, as described by writers of every party, that the higher classes are greatly influenced by bigotry, and the lower classes by superstition. In the rural districts the clergy are regarded with great veneration, and they exercise, and endeavour to maintain, a powerful dominion over the great mass of workmen and peasants. The churches are opened at five or six o'clock every morning, when every good Catholic attends to repeat his prayers before entering upon the business or pleasure of the day; but the afternoon and evening of every Sunday are enlivened by the entertainments of tavern gardens, grounds for shooting with the cross-bow, ball-rooms, theatres, and other public places of amusement. Another remarkable trait in the Belgic character is a pertinacious adherence to long-established notions, habits, and customs, with an aversion to proposed improvements, however worthy of consideration and adoption. This, however, is more especially true of the rural population; for the middle classes of the towns are distinguished by a spirit of enterprise, and readiness to act upon every suggestion of advantage, in the prosecution of industrial and commercial business. Hence, while the apathy of the former, and their preference for what has been established, are favourable to the cause of order and of public tranquillity, the enterprise and ingenuity of the latter conspire to develop the national resources, and enable Belgium to maintain her position in the European commonwealth. The wealthy inhabitants of the cities have very generally adopted the language, fashions, dress, manners, and amusements of the French, so that Brussels may be regarded as Paris in miniature—with much of the dullness of a mere provincial town.

Music and dancing are very favourite amusements, especially with the middle and lower classes. On every fine summer evening, balls are given in the tavern gardens, which are numerous in the outskirts of every large town. Musical festivals are annually celebrated at Bruges, Ghent, and Antwerp, by amateur performers. Prizes are given on these occasions;

and the display of musical skill is quite astonishing. These contests excite the greatest interest in the localities of the different competitors, who are accompanied to the places of meeting by processions. Music, in fact, is so commonly and carefully learnt, even by the labouring classes, that the harmony of the airs which are sung by groups of peasants while at work, is often delightful to the most cultivated musical ear. The national taste for music is further manifested in the numerous and singularly excellent chimes of 50 or 100 bells, called *carillons*, which are placed in the church steeples and towers of the town-halls. Those in the large cities are not always played by means of a revolving barrel worked by machinery, but by keys, similar to those of an organ, though of far greater dimensions. The performers are paid a considerable salary for amusing the citizens, during an hour or two every day, with the finest musical compositions. Their hands are cased with thick leather, and the physical force required is so severe as to exhaust the strength of a powerful man in a quarter of an hour. In some localities, the different chimes are so inconveniently numerous, as scarcely to leave an interval of silence, day or night.

In general the labouring classes in Belgium are ruder and less instructed than in Holland, but industrious and provident habits are observable in every part of the kingdom, especially in Flanders.

Sciences and Arts.—Since the provinces of Belgium have formed an independent nation, a spirit of emulation and desire of improvement have arisen among all classes of the population. The government encourages the progress of science, learning, the fine arts, and literary taste: pensions are given to young men of talent to enable them to develop the powers of their genius in foreign countries, by studying the works of the great masters; and a national exhibition is opened every year, in which are displayed the paintings, sculptures, engravings, and designs of the best artists. It is alternately held at Brussels, Antwerp, and Ghent, so that each of these cities becomes a centre of attraction to the lovers of art every third year.

Architecture has been carried to a high degree of perfection in the construction of the cathedrals and town halls of Belgium, which display the finest specimens of the ornamental Gothic style of the middle ages. The cathedrals of Antwerp, Ghent, and Mechlin, are magnificent Gothic structures. The open work tower of the latter is of the 12th century, and though unfinished, it is higher than the dome of St. Paul's. In England, Gothic architecture is chiefly confined to churches, but in Belgium it has been successfully applied to civic edifices and private houses. Fronts richly decorated with quaint and fantastic sculptures, lofty sloping roofs, full of windows, pointed gables, castellated towers, battlements, and projecting windows, combine to produce a general effect, which, from its grandeur and intricacy, delights and amuses the spectator. The town halls, or rather municipal palaces of Brussels, Louvain, Ghent, Ypres, and Bruges, are unequalled in magnitude and elaborate ornament by any similar edifices in Europe.

Belgium possesses several public *libraries*, containing rich collections; and the government exerts the greatest care to increase and preserve them. At Brussels, the library of Bourgogne, founded about 1560, consists exclusively of a collection of 1,500 MSS. The Royal Library has 206,000 printed and 18,000 MSS. vols. The Town

Library of Bruges has 10,000 vols. At Louvain, the University Library has 105,000 printed vols.; and that of the Jesuits 22,000 vols. At Liege, the library of the university has 70,000 printed volumes, and 487 MSS. The University Library of Ghent has 60,000 printed and 556 MS. vols. The Public Library in the town-house of Antwerp contains 30,000 volumes. At Tournay, the Town Library, opened to the public in 1818, contains 27,000 printed volumes, and 58 MSS. The state also possesses several valuable dépôts of archives. That at Liege includes the archives of the ancient principality of Liege, which are very numerous and interesting. In the dépôt of Mons are the archives of the sovereign court of Hainault, and other curious antiquarian documents.

Learned societies devoted to general or particular objects are very numerous. The most important, as well as the most ancient, is the Academy of Sciences and Belles Lettres of Brussels, the operations of which commenced in the reign of Marie Thérèse.

Public Instruction.—Belgium possesses four universities devoted to the higher range of scientific and literary studies; two belonging to the state, at Ghent and Liege; the Catholic university of Louvain, founded by the clergy; and the free university of Brussels, founded by association. In the 16th century the university of Louvain was the first in Europe as a school of Catholic theology, and was attended by 6,000 students. Besides the usual faculties of law, medicine, science, philosophy and literature, the university of Liege contains a school for teaching the useful arts, manufactures and mining. That of Ghent gives a course of civil engineering; and the university of Louvain a course of theology. Each of the universities possesses a chemical laboratory, cabinets of physical science, of mineralogy, zoology, and comparative anatomy, a theatre of anatomy, botanic garden, and chambers for clinical practice. The number of students who attend the collegiate courses at Liege is usually about 500, at Ghent 300, and at Brussels about 400. The largest classes are those of law and medicine. About 420 students of divinity attend the Catholic university of Louvain, which is opposed to the liberal university of Brussels.

There are two degrees in each department of knowledge—*candidate*, or graduate, and *doctor*, which is understood and applied simply in its original and abstract signification of a person competent to teach; that is, learned. The class of moral and mental philosophy, and that of polite literature, have each a jury appropriated to examine and confer degrees, as have also those of law and medicine. The members of the examining body are appointed for one year: two of each jury are nominated by the chamber of representatives, two by the senate, and three by the ministers of the government. In the budget of 1864, the sum set down for public education amounted to 4,500,000 francs, or 180,000*l*. It was placed to the credit of the minister of the interior.

A *military school* at Brussels annually furnishes well-instructed officers to the army; and the government has taken measures for the re-organisation of this establishment, in order to form it into a polytechnic academy.

There are two *veterinary schools*, one at Brussels, the other at Liege. That at Brussels belongs to the government; and although it is designated a veterinary school, its arrangements afford the means of complete instruction, not only in that department of science, but in all the different branches of agricultural knowledge, theoretical and practical.

Besides these establishments, which are supported by the state, or by the communes, some of the provinces have *Catholic colleges*, which, as well as the university of Louvain, are under the direction of the clergy. Four of these ecclesiastical institutions are possessed by the corporation of Jesuits; namely, one at Brussels, one at Namur, one at Alost, and one at Ghent. There is also a theological seminary in the diocese of each Catholic bishop; that is, at Mechlin, Bruges, Ghent, Liege, Namur, and Tournay; and smaller schools of the same nature in each diocese; at Mechlin, Roulers, St. Nicolas, Rolduc, Bonne-Espérance, Bastogne, and Floreffe. Belgium may, therefore, be considered as amply provided with the means of maintaining and propagating ecclesiastical doctrines.

Industrial and commercial schools are established at Brussels, and at Verviers, where courses of instruction are given in mathematics, mechanical science, chemistry, geography, book-keeping; in short, in every department of science and practical knowledge that is or may be subservient to the purposes of commerce and the manual arts. At Tournay, a school has been especially formed for teaching the most useful arts and trades; and in the cities of Mons and Namur, schools are opened for giving instructions in the various operations appertaining to mining. The fine arts are still an object of much emulation in Belgium, and academies of painting are very numerous attended in Brussels, Antwerp, Liege, Ghent, Louvain, and Tournay.

The Royal Academy of Fine Arts at Antwerp is the principal school of painting, and it produces every year several artists of the highest distinction. It is supported by the public, and is usually attended by at least a thousand students.

Belgium is remarkable for its large and numerous schools of music, called *conservatoires*. The most important is that of Brussels, which is commonly attended by 400 pupils; and the most ancient is at Liege, with 200 pupils. The Ghent Conservatory of Music, though a very recent establishment, contains above 160 pupils. There are several others, numerous attended, at Mons, Louvain, and Namur. The Grand Harmonic Society of Brussels, which is accounted the first of the kind in existence, includes among its best performers many who were taught in the Brussels conservatory.

Primary instruction in Belgium has made no perceptible progress since the revolution by which the Belgic provinces became independent of the Dutch government, an event which, however beneficial and desirable for other national objects, has doubtless been greatly injurious to the cause of national education. The *compulsory* and *normal* system of Holland was then rejected by the Belgic authorities, who adopted, in its stead, the *voluntary* principle; but this has not secured either the competency of teachers or the attendance of scholars; so that general confusion and ignorance have succeeded to that order and intelligence which was steadily extending under the dominion of the Dutch. The Catholic clergy and monastic orders have made energetic and very successful exertions to possess the ground which the Belgic government left unoccupied, especially the brotherhood of the Christian Doctrine.

Public instruction in the Belgic provinces, down to the time of their union with those of Holland in 1815, was in a very backward and depressed state. Primary education had been systematically and very successfully established in Holland since 1805, and it is due to the government of that country to acknowledge that its anxious attention was at once bestowed upon the great deficiencies and

abuses of the school system of Belgium, on its union with Holland. In 1817, the Dutch normal and compulsory system first began to operate generally throughout the southern provinces of the kingdom of the Netherlands, now constituting Belgium; and during the twelve years from that time to 1829, the progress and value of primary instruction was far greater than at any period before or since. Well arranged schools, and able teachers, were established in almost every commune, and improvement was rapidly and universally extending. Antiquated and awkward routine was replaced by more rational and advantageous methods of teaching; uniformity was observed in the use of class-books; normal schools were opened for the instruction and training of masters; courses of lectures were given in the principal towns on the required qualifications and duties of teachers; funds were supplied in advance for the construction of school-houses; societies of masters were formed for circulating useful books and professional knowledge. Notwithstanding the obvious advantages of this system, a spirit of opposition began to be generally manifested in 1828, and it appears to have been mainly attributable to ecclesiastical partisanship. The people and institutions of Holland are chiefly Protestant, while those of Belgium, with little exception, are Catholic. The Belgians are, moreover, most rigid adherents to the rights and dogmas of the Church of Rome, and are remarkably subject to the influence of their spiritual pastors. They consequently never heartily concurred in the establishment of the educational system introduced by the Dutch, and eventually they charged it with being instrumental in propagating Protestant doctrines, at variance with those of the Catholic church. The refusal of several Catholic congregations to submit to the rules respecting examinations and certificates, which led to their proscription by the government; the rebellious disposition of teachers, who would not, or could not, undergo the required proof of their qualifications, and the offence often unavoidably given by the district inspectors in the execution of their functions, served at length to create an amount of opposition and perplexity that induced the government to propose, in 1829, before the revolution, a return to the principle of 'freedom of teaching.' Since 1830 the adoption of that principle, whatever may be its ultimate effect, has been productive of great immediate injury to the primary schools, a large number of which have fallen back to the use of bad old methods and the employment of miserably incompetent teachers. A few primary schools receive subsidies from the present government, but most of the excellent societies which arose under the normal system for the encouragement of good teachers, the use of superior books, and the adoption of improved methods, have disappeared, and the government neither exercises any superintendence, nor makes any inspection, even of the mode of appropriating the insufficient sums which are voted by the legislature for the schools still dependent upon the national funds. There is but little educational progress visible, and the number of schools and scholars was scarcely larger in 1861 than in 1831. In 1851, there were 5,520 schools with 511,096 pupils; and 1861, the number of schools was 5,519 with 599,781 pupils.

The number of scholars is far from being equal to that of the individuals requiring elementary education: with regard to which the population may be divided into four parts. The *first* consists of children under the age of 2 years, who form about *one-eighteenth* of the whole population, and whose education is merely maternal. The *second*

consists of children between the ages of 2 and 6 years, who form about *one-twelfth* part, and who ought to be for the most part committed to the guardian or asylum schools, to be prepared to receive instruction. Schools of this description are at present established only in some of the large towns, and the total number of children belonging to them does not exceed 8,000, which is scarcely a hundredth part of the requisite amount. The *third* part consists of children between 6 and 15, who form about *one-sixth* of the whole pop., and should all receive the instruction which is afforded in primary schools, but it appears that only about one-half of this class have that advantage. The *fourth* and last part comprises all above the age of 15. In 1836, more than half the young men who were enlisted for the militia in the metropolitan province of Brabant were entirely unable to read.

Of the young men drawn for conscription in the three periods 1851, 1856, and 1859, there were:—

	In 1851	In 1856	In 1859
Not able to read nor write . . .	14,233	13,343	13,393
Able only to read . . .	4,213	3,778	3,211
Able to read and write . . .	9,843	9,718	11,266
Of superior education . . .	10,653	12,961	14,467

Of every thousand convicts who entered the prisons in 1850 and 1855, there were:—

	In 1850	In 1855
Not able to read nor write . . .	550	566
Able only to read . . .	295	263
Able to read and write . . .	136	157
Of superior education . . .	18	14

It appears that the total mass of individuals destitute of primary instruction, consisting of adults and children above two years of age, is to the whole pop. as 58 to 100, or more than one-half. The instruction given to children is far from being adequate to their wants; it is limited to reading, writing, and a very little of arithmetic. The scholars are often merely kept in charge, and learn nothing; and, commonly, in the country districts, the attendance of more than one-half is discontinued throughout the summer, in order that something may be earned by their services in the fields. The education of girls is more neglected than that of boys, and both sexes are generally taught together on the same benches, by male teachers. Two-thirds of all the schoolmasters in the kingdom are self-appointed, and unwarranted by any certificate of competency.

Catholic Sunday schools for religious instruction are very numerous attended in the provinces of Flanders and Antwerp. Evening schools for the working classes are established in several of the principal towns; and also some excellent institutions for instructing the deaf and dumb.

Public Charities and Pauperism.—Belgium possesses a great number of charitable institutions, consisting of richly-endowed hospitals and almshouses, for the relief of every kind of misfortune, misery, and want, and for individuals of all ages.

Each commune has its bureau of charity for the distribution of money, food, or clothing, permanently, to the sick poor, and occasionally to those in health. Private establishments are formed at Brussels, Verviers, and Liege, for the employment of indigent artisans. *Ateliers de Charité*, at Antwerp, Ghent, and other cities, afford work and maintenance to numerous destitute operatives. The one at Ghent constantly contains, on an average, 450 inmates.

Numerous hospitals and asylums for lunatics are established in the principal cities of the kingdom; and in general the arrangements and the

treatment, physical and moral, are very judicious and commendable. There are several ancient endowed institutions for the maintenance of orphans; and in Antwerp, Flanders, Brabant, and Hainault, are several foundling hospitals.

Belgium has five great workhouse establishments for the reception, confinement, and maintenance of the poor. They are situated at la Cambré, near Brussels, for the province of Brabant; at Bruges, for the two Flanders; at Hoogstraeten, for the province of Antwerp; at Mons, for Hainault, Namur, and Luxemburg; and at Reickheim, for the provinces of Liege and Limburg; and they are not only asylums for indigent persons either sick or in health, but prisons for condemned vagabonds and beggars. It is stated by Mr. Nicholls, in his Report on the condition of the poor in Holland and Belgium, that, under the present regulations, these provincial workhouses, or *dépôts de mendicité*, are very defective institutions,—nurseries of idleness and promoters of pauperism; and that hence the necessity arose for resorting to more rigorous measures, which ended in the establishment of the poor colonies, to which all persons found begging are sent, if able to work, and are compelled to labour for subsistence, under strict discipline and low diet. He remarks that, had the old workhouses been rendered efficient by the introduction of regulations calculated to make them tests for distinguishing between *poverty* and *destitution*—providing only for the latter—there would have been no necessity for the poor colonies, where the test of strict discipline, hard labour, and scanty diet, is so applied as to be held in the greatest dread by the vagrant classes. All beggars are apprehended by the police. If able to work, they are sent to the penal colony; if aged or infirm, or unable to perform out-door work, they are sent to the workhouses; and although the discipline of the latter is defective, and their management in many respects faulty in principle, they serve, with the aid of the coercive colonies, to secure the repression of public mendicity. The establishment at la Cambré, near Brussels, is superior, in its internal arrangements, to the great workhouse at Amsterdam, particularly in the separate classification of the aged, the children, and adults, and also in the good arrangement and cleanliness of the sleeping-rooms. The sexes are strictly separated in all the Belgic institutions of this nature. By the penal code, a mendicant once condemned to the workhouse for public begging may be kept there during the remainder of his life; but in practice he is allowed to leave it whenever the commission of superintendence are satisfied that he is disposed and able to labour for his subsistence without resorting again to mendicity.

The pauper colony of Belgium is near Hoogstraeten, in the N. extremity of the province of Antwerp; it was established in 1823, by a charitable society, which entered into a contract with the government at that time, to provide for 1,000 mendicants, on receiving for each 85 florins per annum, or 2*l.* 13*s.* The tract of bruyère, or poor heathy land, which the society purchased to form the colony, extends to about 1,800 acres in the communes of Merxplas and Rykevorsel.

The cultivation of this land is carried on by the paupers, and its crops of potatoes and other vegetable produce are generally as abundant as those of the surrounding communes. The buildings are spacious and well ventilated, and the arrangements and discipline are such as to secure the general healthiness of the inmates. There is a school for elementary instruction, an infirmary, with various workshops, stores, and machinery for spinning and weaving. One ward is used in common as work-

shop, refectory, and dormitory. The inmates sleep in hammocks, and are clad in a very coarse uniform. They labour with the spade in the fields, or in making bricks, or at manufactures in the house, under the superintendence of an inspector. All particulars respecting the work, food, clothes, and expenses of each individual are entered daily, in books kept in the military manner. Mounted guards patrol the boundaries of the colony, to prevent the escape of deserters, and rewards are given for bringing back those who succeed in getting away, for each is compelled to remain at least one year. These rigorous measures for the suppression of mendicancy have been adopted in the absence of any acknowledgment of a right to relief, and notwithstanding that a large portion of the relief actually administered arises from endowments and voluntary contributions. No right to relief exists either in Holland or Belgium.

According to an official statement made in 1857, there were at that time 908,000 families in Belgium, of which 89,680 were in good circumstances, 373,000 in straitened (*pénible*) condition, and 446,000 families in poverty. Stated in percentage, this gives 9 to the first, 42 to the second, and 49 to the third class. The social condition of the people is further described by a return of Oct. 1, 1865, which states the number of 'known beggars' to amount to 88,019 individuals, of which 48,041 were of the male sex. Of the five million inhabitants of Belgium, about one million and a half live in 86 towns, and three millions and a half in 2,445 country parishes.

Prisons and Criminals.—In Belgium, the punishments of death, and of branding, although still written in the laws, are practically abolished. Criminals are placed in four central prisons; namely, at Ghent, for those condemned to forced labour; at Vilvorde, solely for confinement; at St. Bernard, near Antwerp, for correction; and at Alost, for military offences. There is also in the chief town of each prov. having a court of assize, and of each arrond., a prison for persons arrested, or condemned to less than six months' confinement, and for debtors. A separate penitentiary for female criminals is established at Namur. The superintendence and instruction of female prisoners are confided to the religious order of the Sisters of Providence.

In general, there is in Belgium, 1 person accused of crime among 5,000 inhabitants, and 1 of misdemeanour among 170. In 100 accused of crime against the person, 20 are acquitted; and of the same number accused of crime against property, 15 are acquitted. The number of crimes against property is three times greater than that of crimes against persons. From the reports of the central prisons in the years 1850 and 1855, it appears that in 100 individuals there confined, 55 were utterly ignorant of reading and writing, 29 could read only, but were otherwise extremely ignorant, and 16 could read and write with some degree of facility.

Government.—Belgium is governed by a constitutional monarchy—under a dynasty elected by the constituents of the nation. Its independence was first proclaimed, in an absolute manner, by a provisional government, on the 4th of Oct., 1830, and on the 18th of the following Nov. it was again proclaimed by the national congress. By the terms of the treaty of the 15th of Nov., 1831, Belgium forms a state perpetually neutral with regard to all other states. The Belgian constitution, decreed by the national congress on the 7th of Feb., 1831, places all governmental power in the nation, operating by means of the representative system. It establishes individual liberty, the

inviolability of every man's house and property, the perfect liberty and independence of religious worship and opinions, the right of assembling and associating, the liberty of the press, the liberty of teaching, ministerial responsibility, and the independence of the judicial power. No state church is recognised, and no one can be compelled to conform in any way whatever to the forms and ceremonies of any ecclesiastical system. The state has no right to interfere in the nomination or appointment of the ministers of any religious denomination, nor to prevent the publication of their acts. The form of marriage, as a civil compact, is required to precede the act of religious benediction. Belgians have the right to assemble peaceably and unarmed; but assemblages in the open air are subject to the laws of the police. All power emanates from the people, and must be exercised in the manner established by the constitution.

The legislative power is exercised collectively by the king, the chamber of representatives, and the senate. Each branch possesses the power of first moving the adoption of laws; but such as relate to the state expenses and receipts must be first voted by the chamber of representatives. The interpretation of the laws, with respect to authority, belongs only to the legislature. The executive power is exercised by the king, as directed by the constitution, and the judiciary power by the courts and tribunals. All decrees and judgments are executed in the name of the king. Questions relating exclusively to provincial and communal matters are determined by the councils of the provinces and communes.

The members of the two chambers represent the nation, and not merely the province or subdivision of a province by which they are nominated. The sittings of the chambers are public, but each chamber can form itself into a secret committee on the demand of its president and ten members. Members of either chamber cannot receive any pension, or hold any paid office under the government, and during the session they cannot be arrested or detained, except for any flagrant misdemeanour. The chamber of representatives is composed of deputies chosen directly by citizens who pay taxes to the amount of at least 20 florins, about 33 shillings. The number of deputies cannot exceed the proportion of 1 to 40,000 inhabitants. To become a deputy, it is necessary to be a Belgian by birth or by naturalisation; to be in possession of the civil and political rights of the kingdom; to have attained the age of 25; and to be resident in Belgium. No other condition of eligibility can be required. The representatives are elected for four years, and one half of the whole are renewed every two years. On a dissolution, the whole chamber is renewed. Each representative, except those who live in Brussels, receives 200 florins (16 guineas) each month of the session, as indemnity of expenses. The senate is composed of half as many members as the chamber of representatives, and they are elected by the same citizens for eight years. Half are renewed every four years, and the whole on a dissolution. The qualifications are the same as for the representatives, except that the age must be at least forty years, and the amount paid in direct taxes must be at least 1,000 florins (84*l.*) The senators receive no payment, on account of indemnity of expenses. The session of the chambers must last at least forty days. The number of representatives is 102, and of senators 51. The constitutional powers of the king are hereditary in a direct male line, natural and legitimate, in the order of primogeniture, to the perpetual exclusion of females and their descendants. In default of male issue, the king may

nominate his successor, with the assent of the two chambers, and if no nomination be made, the throne is vacant. The person of the king is inviolable. His ministers alone are responsible. No act of the king is valid unless countersigned by a minister, who thereby becomes responsible. The king nominates and dismisses his ministers at will, confers gradations of rank in the army, and appoints all persons employed in the general administration, with some exceptions, indicated by the law. He sanctions the laws, and issues the orders and decrees for their execution, without possessing any power either of suspending the laws themselves, or of dispensing with their execution. He commands the land and sea forces, declares war, negotiates treaties of peace, of alliance, and of commerce; but treaties of commerce, and others involving important consequences, are of no effect without the sanction of the chambers. The king may especially convoke or adjourn and dissolve the chambers, and he can mitigate or remit the sentences of punishment pronounced by the judges. He can also confer titles of nobility, but he has no power to attach to them any privileges whatever, all Belgians being absolutely equal in the eye of the law. The nobility enjoy only a personal title, without constituting a social order. No member of the royal family can be a minister, and no one who is not a Belgian by birth or naturalisation. Ministers have no deliberative voice in the chambers unless they are members. They can enter, however, and demand a hearing; and the chambers can demand their presence when required. They are liable to be accused by the chamber of representatives, who can bring them before the court of cassation, which alone is empowered to judge them. The king cannot withdraw a minister from responsibility, nor pardon him when condemned, without a demand for pardon from one of the chambers. There are five ministers; namely, a minister of justice, of the interior, of foreign affairs, of public works, of war, and of finance. The king is declared of age at eighteen years. Before he can exercise the functions of royalty, he must take the following oath in the presence of the two legislative chambers:—'I swear to observe the constitution and the laws of the Belgian people; to maintain the independence of the nation, and the integrity of its territory.' Judges receive their appointments directly from the king, and hold them for life, so that they cannot be superseded but by their own consent, or by a judgment and for reasons pronounced in open court. The trial by jury is established for all criminal and political charges, and for offences of the press. No extraordinary judicial commission, or tribunal, can be created under any denomination whatever. No taxes can be levied by the state unless ordained by a law of the legislative chambers; and all taxes, as well as the extent of the army, must be voted annually. The civil list is fixed for the duration of each reign. For that of king Leopold II. it was fixed at 2,751,328 francs, or 110,040*l.*, besides the appropriation of the royal edifices, and court expenses, raising it, together with allowances to the members of the royal family, to 4,201,390 francs, or 168,056*l.*

In each province a governor is appointed, directly amenable to the minister of the interior, for the purpose of superintending and securing the due execution of the laws, and each administrative arrondissement is superintended by a commissary, under the provincial governor. The exclusive interests of each province are committed to a provincial council, elected by the citizens, who elect the national representatives. The number of councillors in each province is from fifty to

seventy. Each commune has also its council to manage the affairs which belong exclusively to its inhabitants. The members are elected as those of the provincial councils, in the proportion of one, on an average, to 187 inhabitants. Each commune has from two to four bailiffs, and a burgomaster, who is the principal local officer for the administration of justice, and the direction of police affairs.

Judicial System.—A *tribunal de paix* in each canton, a *tribunal de première instance* in each arrondissement, and three courts of appeal,—at Brussels, Ghent, and Liege,—form three degrees of civil jurisdiction. Misdemeanours belonging to the correctional police are judged by a section of the *tribunal de première instance*; crimes and graver misdemeanours, political offences, and abuses of the press, are judged by a court of assizes in each province, with a jury of citizens possessing certain qualifications indicated by the law.

A *Cour de Cassation*, or annulment, at Brussels, decides upon demands against judgments pronounced in the other courts and tribunals. Commercial affairs are judged by thirteen tribunals of commerce, in the principal commercial towns. Military laws are administered by councils of war, and by a high court at Brussels for final decisions.

The Court of Cassation pronounces only upon the validity of legal forms, and therefore refers all cases of violation or misapplication of the law to another tribunal. The courts of appeal decide upon appeals respecting the judgments tendered in the tribunals of *première instance* in civil matters, and affairs of commerce and correctional police.

The tribunals of *première instance* give definitive judgments upon all civil affairs involving sums under a thousand francs; and the tribunals of *paix* determine cases extending to 50 fr. or to 100 fr. with appeal to superior courts. The tribunals of municipal police are composed of a justice of peace, a commissary of police, and of the burgomaster or bailiff of the commune. The highest degree of judicial proceedings is exercised by the courts of assize, which, in the cities of Brussels, Ghent, and Liege, are composed of a president and four assessors, chosen from the councillors of the courts of appeal.

In the other chief provincial cities these courts are formed of four judges of *première instance*, and a councillor of the courts of appeal as president. Twelve jurymen are chosen for each case by ballot, from qualified citizens, and decide upon the question of guilt; and then, according to their decision, the court acquits or applies the punishment which the law declares. It is calculated that the business of the courts requires annually the services of 2,160 jurymen, and that the kingdom contains 26,359 citizens qualified as the law demands for the performance of that important office.

Finances.—The public income and expenditure of Belgium has averaged for the last few years the sum of 150,000,000 francs, or 6,000,000*l.* sterling. The revenue for the year 1861 amounted to 148,629,190 francs, or 5,945,167*l.*, and the expenditure for the same year to 141,776,487 francs, or 5,671,059*l.*; the revenue for 1862 was 153,214,490 francs, or 6,128,579*l.*, and the expenditure 145,176,390 francs, or 5,807,055*l.*; and the revenue for 1863 was 153,214,490 francs, or 6,144,380*l.*, while the expenditure amounted to but 145,176,390 francs, or 5,805,289*l.* The following were the chief items of the revenue and expenditure of the year 1863:—

REVENUE OF 1863.		
	Francs	£
Land Tax	18,886,290	755,452
Income Tax	10,595,000	420,200
Tax on Trade Licences	4,015,000	160,200
Customs	14,875,000	572,200
Excise Duties	26,755,000	1,070,200
'Enregistrement' & Fines	30,320,000	1,212,800
Domains	4,480,000	179,200
Post Office	2,960,000	118,400
Railways	29,565,000	1,183,400
Stamps, &c.	10,765,500	428,340
Miscellaneous Items	624,700	24,988
Total Income	153,214,400	6,144,380
EXPENDITURE OF 1863.		
	Francs	£
Public Debt	40,422,010	1,616,880
Civil List and Crown Dotations	4,201,390	168,056
Ministry of Foreign Affairs	3,356,802	134,264
„ the Interior	9,482,880	379,315
„ Finances	12,775,050	511,002
„ Justice	13,280,117	531,205
„ Public Works	25,759,809	1,030,392
„ War	33,292,132	1,331,685
Miscellaneous Items	2,606,300	102,480
Total Expenditure	145,176,390	5,805,289

The Belgian budget is at first sight calculated to appear larger than it is in reality, all the gross receipts of the post-office, the railway, and the telegraphs being recorded as revenue, while the working expenses of those establishments are inscribed in the budget of public works, and swell the apparent amount of expenditure. Of the whole revenue recorded for 1863, about 49,000,000 francs are derived from sundry and patrimonial sources, and 112,000,000 francs from taxation.

The national debt of Belgium was as follows in the year 1863:—

Description of Debt	Nominal Capital	Rate of Interest
	Francs	Per cent.
Part of Dutch Debt	16,931,200	5
Canals, Roads, and Railways	220,105,632	2½
Railways, Original Amount	16,016,000	4
War Indemnity, Original Amount	80,775,333	3
Town of Brussels	—	3
Conversion of 5% of 1832 and Treasury Bonds	7,624,000	5
Reimbursement to Holland of a nominal capital of 169,312,000 at 2½%	6,000,000	4½
Conversion of the 5% Loans of 1840, 1842, 1848, and of Treasury Bonds	71,767,682	4½
Conversion of 5% Loan of 1852, and issue of 45,000,000 fr. Loan for Public Works	74,577,500	4½
	150,433,700	4½
	68,879,000	4½
Total	655,486,047	
	£26,219,442	

The debt is paid off gradually by the surplus of income over expenditure, and the operation of the sinking fund, or *caisse d'amortissement*. On September 1, 1864, the total debts had been reduced to 639,000,000 francs, or 25,560,000*l.* It is calculated that, in the year 1884, the net income of the state railways will be sufficient to pay the entire interest of the debt.

Army and Navy.—The quota of the Belgic army is determined every year by a law. The

expenses of the war department in 1830-31 were 86,643,275 francs. In 1838 it had fallen to 42,076,786 francs, or less than half; and it continued to decrease till, in 1847, it amounted to only 27,482,607 francs; but in consequence of the revolution in France, and the commotions in the other parts of the Continent, by which the tranquillity of Belgium was seriously threatened, the war expenditure for 1848 rose to about 38,000,000 francs. It was gradually reduced, however, and in the year 1863 amounted to but 33,292,132 francs, or 1,331,685*l*.

According to the law of June 8, 1853, the standing army of Belgium is to consist of 100,000 men, distributed over sixteen regiments of infantry, seven regiments of cavalry, and four regiments of artillery. The actual number of soldiers under arms, at the end of 1862, amounted to 73,718 rank and file, comprising 56,550 infantry, 8,202 cavalry, 6,700 artillery, 1,690 engineers, and 576 train. The artillery was possessed of 152 pieces of ordnance.

The army is formed by conscription, to which every able man who has completed his nineteenth year is liable. Substitution is permitted. The legal period of service is eight years, of which, however, one-half is allowed, as a rule, on furlough. A comparatively large number of men are on service in the eleven fortresses of the kingdom, Antwerp, Mons, Charleroy, Philippeville, Tirlemont, Ash, Tournay, Menin, Ypres, Ghent, and Namur.

The navy of Belgium consists of seven vessels, namely, a brig of twenty guns, a sloop of twelve, and two gunboats of five guns each, with three transport steamers. Belgium, on her separation from Holland, was left entirely without an armed navy.

History.—In the ages immediately preceding and subsequent to the Christian era, much of the great plain which now comprises the provinces of W. and E. Flanders and Antwerp, was partially overflowed by the ocean. The soil was so marshy that an inundation or a tempest threw down whole forests, such as are still discovered below the surface. The sea and rivers had no limits, and the earth no solidity. Many of the inhabitants of this low plain lived in huts placed upon the mounds of sand, or elevated above the reach of the tides upon stakes. They had fish for food, rain water for drink, and peat for fuel. (Pliny's Nat. Hist. lib. 16.) The higher S. and E. parts, forming at present the Walloon country, were covered by the immense forest of the Ardennes, which extended from the Rhine to the Scheldt, and afforded shelter to numerous tribes of the German race (Cæs. lib. ii. 4.) who lived by hunting, and by rudely cultivating the earth. They formed a part of the third division of Gaul, which by the Romans was called Belgia, Belgium, or Gallia Belgica, and were the least civilised and most courageous of all the Gallic nations. (Cæs. lib. i. 1.) They had cities, surrounded by lofty stone walls and fortified gates, requiring the use of the Roman battering-rams and moving towers. Their armies contained troops of cavalry; the country produced supplies of corn, and abundant herds of cattle. The people consisted of two classes, chiefs and slaves; and Druidism from Britain was universally predominant.

In the 3rd, 4th, and 5th centuries, the character of the Belgic population was greatly changed by successive invasions of Salian Franks from the north, whose progress westward terminated in the establishment of the Frankish or French empire in Gaul, and under whose dominion the ancient inhabitants of the Ardennes were either destroyed or reduced to slavery. Christianity was intro-

duced, and monasteries were founded in the immense forests and solitudes of the higher country. In the time of Charlemagne, A.D. 800, the physical state of the country had become much improved. In the W. embankments were raised against the encroachments of the sea, and in the E. large tracts of forest were cleared; but the fierce and valiant warriors who formerly occupied the soil were succeeded by an abject race of serfs, who cultivated the domains of haughty lords and imperious priests. The clergy enjoyed immense possessions: 14,000 families of vassals belonged to the single Abbey of Nivelles, and the income of the Abbey of Alne exceeded 1,300,000 dollars. The Flemings formed associations called *Gildes* (the English guilds) for protection against the despotic violence of the Franks, as well as for social assistance. These were the origin of all the ancient municipal corporations, and within a century after the time of Charlemagne, Flanders was covered with corporate towns. At the end of the 11th century, when all the states except Flanders were reduced, by the fierce quarrels of the feudal lords and prince bishops, to a cheerless waste of bondage, the fanatical phrensy of the crusades induced many of the nobles to part with lands, and to grant great privileges and political powers, in order to obtain the means of equipping armies to fight the Saracens. Their wealthy vassals, the Flemish burghers, were thus enabled to purchase independence, and a jurisdiction of their own. They consequently formed themselves into communes, elected bailiffs, directed their own affairs, and built magnificent town-halls with huge belfries, as temples and trophies of their liberties. The people, conscious of their power, gradually extorted from their rulers so many concessions, that the provinces formed, in reality, a democracy, and were only nominally subject to the monarch of France and his nobles. When the rest of Europe was subject to despotism, and involved in comparative ignorance and barbarism, the court of the counts of Flanders was the chosen residence of liberty, civilisation, and useful knowledge; and when the ships of other nations scarcely ventured beyond the sight of land, those of the Flemish merchants traversed the ocean, and Bruges and Antwerp possessed all the commerce and wealth of the north of Europe. In this state the provinces long continued, until they came under the dominion of the Duke of Burgundy, about the middle of the 15th century. Previous to this event, we find only unconnected duchies, counties, lordships, towns, with innumerable rights, claims, and privileges, advanced and enforced now by subjects and vassals against each other or against their lords; and now by lords and vassals against the monarch, without the expression of any collective idea of Belgium as a nation. Under the Burgundian dynasty the commercial and manufacturing towns of the low country enjoyed a remarkable prosperity. The famous order of the Golden Fleece was instituted in 1430; and before the end of the 15th century the city of Ypres had 4,000 looms, and the city of Ghent 50,000 weavers. Bruges and Antwerp were the great marts of the commercial world, and contained each about 200,000 inhab. In the Flemish court of the Duke of Burgundy, named Philip the Good, about 1455, luxurious living was carried to a vicious and foolish excess. The wealthy were clad in gorgeous velvets, satins, and jewellery, and their banquets were given with almost incredible splendour.

This luxury produced depravity and crime to such an extent, that in one year 1,400 murders were committed in Ghent, in the gambling-houses and other resorts of debauchery. The arts were

cultivated with great success. Van Eyck invented the beautiful oil colours for which the Flemish school is renowned. Painting on glass, polishing diamonds, lace, tapestry, and chimes were also invented in Belgium, at this period. Most of the magnificent cathedrals and town-halls in the country were built in the 13th and 14th centuries. History, poetry, and learning were much cultivated; and the university of Louvain was the most celebrated in Europe. In 1477 Belgium passed under the dynasty of the empire of Austria; and after many years of contest between the despotic Maximilian and the democratic Flemings, the government, in 1519, descended to his grandson, Charles V., King of Spain and Emperor of Germany. In his reign the affluence of the Flemish burghers attained its highest point. The city of Ghent contained 175,000 inhabitants, of whom 100,000 were employed in weaving and other industrial arts. Bruges annually exported stuffs of English and Spanish wool to the value of 8,000,000 florins. The Scheldt at Antwerp often contained 2,500 vessels, waiting their turn to come to the wharfs: her gates were daily entered by 500 loaded waggons; and her exchange was attended, twice a day, by 5,000 merchants, who expended 130,000 golden crowns in a single banquet given to Philip, the son of Charles V. The value of the wool annually imported from England and Spain exceeded 4,000,000 pieces of gold. This amazing prosperity experienced a rapid and fatal decline under the tyranny and bigotry of Philip II., son of Charles V. The doctrines of the protestant reformation had found numerous adherents in Belgium. Lutheranism was preached with great zeal by several reformers, who drew around them crowds amounting to 10,000 or 15,000. Parties of iconoclasts also appeared, and demolished the ornamental property of 400 churches. Protestant persecution by the Inquisition had been commenced by Charles V.; but by Philip II. it was established in its most diabolical extravagance. He filled the country with Spanish soldiers, and commissioned the Duke of Alva to extirpate, without mercy, every protestant heretic in Belgium. Ruin and dread of death in its most hideous forms drove thousands of artisans to England, where they introduced the manufacturing skill of Bruges and Ghent. Commerce and trade in Flanders dwindled away, many of the rich merchants were reduced to beg for bread, the great cities were half deserted, and forest wolves often devoured the scattered inhabitants of desolated villages. Belgium remained under Spanish dominion until the memorable victory of Ramillies, in 1706, after which it was subject again to Austria; and having been several times conquered by, and reconquered from, the French, it was incorporated, in 1795, with the French republic, and divided into departments. By this union, Belgium secured a suppression of all the old feudal privileges, exemption from territorial contributions, the abolition of tithes, a more extensive division of real property, a repeal of the game laws, an admirable registry law, a cheap system of tax collection, the advancement of education in central schools and lycæums, a uniform system of legislation by the creation of codes, publicity of judicial proceedings, trial by jury, and the general use of the French language. By the congress of Vienna, the provinces of Belgium were annexed to those of Holland, to form the kingdom of the Netherlands, which existed until the revolution in 1830, when Belgium became an independent nation. Her union with Holland was one of convenience on the part of those by whom it was negotiated, and not attri-

butable to any congeniality of the people joined together, who differ in national character, in religion, and, to some extent, in language. The Belgians complained of being forced into a union which they would not have sought, and that its terms were unequal. The French revolution of 1830 excited the predisposition to insurrectionary movement, and the result was a declaration, and, finally, a general recognition, of independence, leading to the election of Prince Leopold of Saxe-Coburg-Gotha as first King of the Belgians.

Antiquities.—No part of Europe contains, within the same extent of area, so many objects, and furnishes so many associations, to interest the antiquarian, the political, ecclesiastical, or military historian, the artist, and the poet. Numerous ancient cities and towns, some of which existed long before the Christian era, still are adorned with magnificent Gothic structures of the middle ages, that recall to the imagination the gorgeous pageantry of the days of chivalry; and on many a lone hill, and forest solitude, stand the ruins of castles, abbeys, and châteaux, whose lordly owners have been the heroes of romantic legends. In the S. and E. provinces are found lithoi, tumuli, and other remains of the Celtic Druids, to whom is attributed the excavation of numerous apartments and passages in several subterranean caverns, particularly that of the hill of St. Peter, near Maestricht, which contains above 100,000 different avenues, 12 ft. in width, and from 6 to 24 in height. Numerous coins and medals of the Romans have been found on the sites of their camps and roads; and Roman masonry, containing inscriptions in honour of the Menapien divinities, has been discovered among the relics of ancient towns, in places now overflowed by the sea. Near Charleroy, in the midst of beautiful scenery, are the ruins of the celebrated Abbey of Alne, the cloisters of which were formed by 300 columns of the finest marble. The old castles of the 15th century, in the neighbourhood of Liege, are described in Sir Walter Scott's novel of *Quentin Durward*.

The number of eminent and remarkable individuals who were born in Belgium is very great. Belgium is the country of birth of the Emperor Charles V., of Scaliger, Lipsius, and Van Helmont; of the geographers Ortelius and Mercator; of John of Gaunt, or Ghent; of Perkin Warbeck, who was the son of a Jew of Tournay; of the painters Van Eyck, Quentin Matsys, Rubens, Vanduyke, Teniers, Jordaeus, Snyder, and many other painters of the Flemish school.

BELGRADE (an. *Singidunum*), a fortified town of the principality of Servia, on the right bank of the Danube, at the point where it is joined by the Save; lat. 44° 47' 46" N., long. 20° 39' E. Pop. estimated about 30,000. From its position, on the limits of the Austrian and Turkish empire, at the confluence of two great rivers, its great strength, and the numerous sieges it has sustained, much interest has long been attached to Belgrade. Its citadel, on a steep hill, 100 ft. high, near the centre of the town, occupies a most formidable position. It has been very strongly fortified; and if it were properly repaired and garrisoned, with the fortifications on the low ground at the junction of the rivers sweeping as they do every approach by land and water, it would be all but impregnable. Latterly, however, its works have been neglected, and they are now going fast to ruin. Within the citadel are the arsenal and magazines, the principal mosque, and the palace of the pacha; the latter constructed of wood and mud! The town lies principally to the W. and SW. of the fortress, partly along the Save, and partly on higher ground, and is surrounded by walls and palisades, gene-

rally in a ruinous state. The situation of the town is no better than that of the citadel. Many of its houses are in ruins; most of them are of the meanest possible description, 'worse even than the cabins of the Irish'; and the streets are disgustingly filthy, and infested with herds of half-starved dogs. The bazar consists of several rows of miserable wooden booths, entirely open towards the street: their assortment of goods corresponds with their appearance. The reigning Prince of Servia formerly resided at Kraguevatz, but he has built here a handsome house in the upper part of the town, a Greek church, and barracks. The manufactures are inconsiderable, consisting principally of carpets, silk goods, some descriptions of hardware and cutlery, with saddlery, &c. It has a good port on the Danube, and it is admirably situated for trade, of which, in consequence, it still preserves some small share.

The Turks, under Solymán the Magnificent, took Belgrade in 1522, and held it till 1688, when it was taken by the Imperialists. Two years after, it again fell into the hands of the Turks; and though it has since been repeatedly taken by the Imperialists, they have, in most instances, soon after restored it to its Ottoman masters, of whose miserable government its present abject and degraded condition is a striking, though, unhappily, not a rare example. It was taken, in 1807, by the Servian insurgents, who, on being obliged to abandon it in 1813, burnt the suburbs, and partly destroyed the fortifications. The town was placed, in 1815, along with Servia, under the sovereignty of Prince Milosch; but its citadel, according to treaty, is still occupied by a Turkish garrison.

BELIDA, an inland town of the regency of Algiers, prov. Titteri, at the foot of the Lesser Atlas, near the plain of Metidjah; 25 m. S. Algiers, and 10 m. N.E. Medeah; lat. $36^{\circ} 18' N.$, long. $2^{\circ} 45' E.$ It is surrounded by a wall 12 to 16 ft. high, which has four gates, one at each of the cardinal points. Its streets are wider and more agreeable than those of Algiers: the town is well supplied with water, and contains many gardens. It suffered much from the violent earthquake of 1825, since which the houses have been with only a ground-floor. Belida has some trade in grocery, spices, and other natural produce; its vicinity is fertile and picturesque. In July, 1830, the inhabitants invited the French to defend them against the Kabyles; but after their arrival the Bedouins compelled the citizens to take up arms against them. Next year, however, the French took Belida.

BELINZONA, or BELLENZ, a town of Switzerland, cant. Ticino, of which it is the cap., in a deep valley on the banks of the Ticino, 5 m. above where it falls into the Lago Maggiore, and 15 m. N. Lugano; lat. $46^{\circ} 10' 35'' N.$, long. $8^{\circ} 55' 30'' E.$ Pop. 2,196 in 1860. Being situated near the S. extremity of the great road from Italy to Switzerland, by the St. Gothard pass, it is a depôt for the merchandise passing between them. It has a handsome church, and a bridge over the Ticino, 714 ft. long, and 24 ft. wide.

BELITZ, or BELZIG, a town of Prussia, prov. Brandenburg, 12 m. S. by W. Potsdam. Pop. 2,674 in 1861. It is surrounded by old walls and fosses; and is the seat of a board of ecclesiastical inspection. Flax is grown extensively in its vicinity, and it has manufactures of linen and two paper-mills.

BELLA, a town of Southern Italy, prov. Potenza, cap. cant., 15 m. S. by W. Melfi. Pop. 5,460 in 1861. It is situated on a hill; has a collegiate and one other church, a hospital and three charitable foundations.

BELLAC, a town of France, dép. Haute Vienne, cap. arrond., on the declivity of a steep hill, near the confluence of the Vincou and the Gartempe, 24 m. NNW. Limoges. Pop. 3,633 in 1861. The town has a tribunal of original jurisdiction, an agricultural society, with various manufactures, and a considerable trade in cattle, oak timber, and chestnuts.

BELLARY (*Valahari*), a distr. or collectorate of Hindostan, presid. Madras, part of the Balaghat ceded distr. (See BALAGHAUT.)

BELLARY, the cap. of the above collectorate, and the head-quarters of a civil estab. and a military division, 280 m. NE. Madras; lat. $15^{\circ} 5' N.$, long. $76^{\circ} 59' E.$ It consists of a square fortress on an isolated rock, with a pettah or small town below it, containing the best military bazar in India. This also is the name of a ruined town of Allahabad, formerly of great extent, and having some fine Hindoo temples in its vicinity.

BELLE-FONTAINE, a village of France, dép. Vosges, 7 m. W. Remiremont. Pop. 2,566 in 1861. There are manufactures of cotton goods and cutlery.

BELLEGARDE, a fortress of France, dép. Pyrénées Orientales, on the Spanish frontier, 18 m. S. Perpignan, close to the railway from Perpignan to Barcelona, across the Pyrenees. It is a fortress of the first class, constructed in the reign of Louis XIV., to command the pass of Perthus. It was taken in 1798 by the Spaniards, and retaken the following year by the French. Bellegarde is also the name of several small towns in different parts of France.

BELLEISLE, an island at the N. entrance to the straits of the same name, between the country of the Esquimaux, or New Britain, and the N. end of Newfoundland. It is 21 m. in circuit, and 16 m. from the coast of Labrador. On the NW. side it has a harbour for fishing vessels or small craft.

BELLE-ISLE-EN-MER, an island of France, in the Atlantic, 8 m. S. of Quiberon Point, being included in the dép. Morbihan. It is almost everywhere surrounded by high steep rocks. Its NW. end is in lat. $47^{\circ} 32' N.$, and its S. part in lat. $47^{\circ} 16' N.$ It is about 11 m. in length, its greatest breadth being about 6 m. It is accessible only at three havens or ports, all of which are dry at low water. Of these Palaia, on the E. coast, is the principal, as well as the capital. Pop. 3,391 in 1861. The haven here is formed by a stone pier, 200 ft. in length, and is protected by a strong citadel. It has only 5 ft. at high water, but the road is generally safe. The two other accessible points, Sauzon and Loc Maria, are also both fortified. The island is fertile, producing excellent wheat and horses. The inhabitants are extensively engaged in the sardine fishery, and make excellent pilots.

This island was purchased in 1658 by Fouquet, intendant of finance to Louis XIV., and was exchanged in 1718 by his descendant for the comté of Gisors. In 1761 it was taken by the English, but was restored to France in 1763.

BELLESME, or BELLEME, a town of France, dép. Orne, cap. cant., on a hill which commands the environs, near the forest of the same name, 22 m. ESE. Alençon. Pop. 8,156 in 1861. The houses are well built; streets straight, neat, and well paved. The want of running water is supplied by wells. It has fabrics of coarse linens and cottons, and a considerable trade in wood and horses.

BELLEVILLE-SUR-SAONE, a town of France, dép. Rhone, cap. cant., on the Rhone, 84 m. N. Villefranche. Pop. 3,052 in 1861. It has a manufacture of stuffs, called *coton broché*, and muslins. A good wine is made in the neighbourhood.

BELLEY, a town of France, dép. Ain, cap. arrond., between two hills, within 4 m. of the Rhone, 42 m. E. Lyons on the railway from Lyons to Geneva. Lat. $45^{\circ} 45' 29''$ N., long. $5^{\circ} 41' 19''$ E. Pop. 4,786 in 1861. It is the seat of a bishop; has a tribunal of first instance, a director of customs, a secondary ecclesiastical school, a public library, and a museum of antiquities. The episcopal palace, finished only a few years before the Revolution, is one of the most remarkable edifices in the department. The bishopric was founded in 412.

BELLINGHAM, a market town of England, co. Northumberland, on the Tyne, 22 m. W. Morpeth, and 28 m. WNW. Newcastle. Pop., in 1821, 404; 1831, 464; in 1861, 866. The parish, in 1861, had a population of 1,662. The town is supposed to occupy the site of a Roman station, and several circular intrenchments of the fortified villages of the Britons are in the neighbourhood. The entire parish belonged to the Earl of Derwentwater, and was given to Greenwich Hospital, with the other estates of that nobleman, on his attainder in 1715. The church, dedicated to St. Cuthbert, is small and old. There are places of worship for Seceders and Roman Catholics; a free school, poorly endowed; and a book club, formed in 1809. It is a station for receiving votes at elections for members for the S. div. of the co. Markets are held on Saturdays; fairs on the first Saturday after 15th Sept., and the Wednesday before Good Friday; also 'hirings' for servants on the Saturdays before 12th May and 12th Nov. (An interesting account of the parish of Bellingham was read by Mr. Wm. Hy. Charlton, of Healesyde, before the British Association, at Newcastle, August 1863. The paper was published in the 'Journal of the Statistical Society,' Dec. 1863.)

BELL-ROCK, a dangerous ledge of rocks, off the coast of Scotland, in the German Ocean, opposite to the Frith of Tay, 12 m. E. Buttouness Point. The ledge is about 850 yards in length, by about 110 in breadth. At low water, some of its summits appear from 4 to 8 ft. above the level of the sea, but at high water they are always covered. Many vessels have been lost on this rock, over which the sea breaks with tremendous fury. To lessen the chance of such disasters, a magnificent lighthouse, constructed on the model of the Eddystone, was erected, on one of its points, in 1808-10. The total height of the building, including the light-room, is 115 ft., the lantern being elevated 90 ft. above the sea at high-water mark. The light is revolving, the flashes succeeding each other every two minutes. Lat. of lighthouse $56^{\circ} 26' N.$, long. $2^{\circ} 23' W.$ During foggy weather, bells are tolled every half minute.

BELLUNO (an. *Bellevum*), a city of Northern Italy, cap. prov. same name, in the valley, and on the S. bank of the Piave, at the place where it is joined by the Ordo, on the great road connecting Vienna with Venice, 48 m. N. of the latter; lat. $46^{\circ} 7' 46'' N.$, long. $12^{\circ} 13' 51'' E.$ Pop. 13,600 in 1857. The town is surrounded by an old wall; is well built; has a cathedral, designed by Palladio, and several churches and convents; a rich hospital, a gymnasium, with various other educational establishments, and a valuable public library. Water is conveyed into the town from a distance by a fine aqueduct. It is the seat of the provincial (Austrian) authorities, and has fabrics of silk, wax, leather, hats, and earthenware; with a considerable trade in timber, and large fairs in February and April. Napoleon conferred on Marshal Victor the title of Duke of Belluno.

BELMONT, a town of France, dép. Loire, cap. cant., 16 m. NE. Roanne. Pop. 8,594 in 1861.

BELMONTE, a town of Southern Italy, prov.

Cosenza, on a mountain not far from the Mediterranean, 14 m. WSW. Cosenza. Pop. 4,142 in 1859. The town has a castle, four churches, and some trade in silk.

BELOOCHISTAN (an. *Gedrosia*, and the countries of the Ichthyophagi, Oritæ, Arabitzæ, &c., *Arrian*), a country of S. Asia, lying between $24^{\circ} 55'$ and $30^{\circ} 15' N.$ lat., and $57^{\circ} 50'$ and $69^{\circ} 15' E.$ long.; having N. Afghanistan, Seistan, and the sandy desert of Caubul; E. Upper and Lower Sinde; W. Persia; and S. the Indian Ocean: length, E. to W., 700 miles; breadth, on either side, 350 m., and 190 in the centre: area 200,000 English sq. m. Pop. has been estimated at 3,000,000: this, no doubt, is far beyond the mark; probably, 1,000,000 would be nearer the truth.

Mr. Pottinger describes the country under the following divisions:—

	Ch. T.	No. of Inhab.
1. Prov. of Sarawan . . .	Kelat	20,000
— Jhalawan . . .	Zuhree	2,500
2. — Mukran . . .	Kedje	
— Lus . . .	Bela	2,000
3. — Cutch Gundava . . .	Gundava (Hurrund)	
4. Kohistan . . .	Puhra, Surhud	
5. The Desert.		
6. Sinde.		

The first four divisions only will be noticed in this article; the 5th belongs properly to Caubul, and the 6th will be treated of separately.

By far the greater part of Beloochistan is mountainous, and especially its E. and W. divisions, which consist of two table-lands; those of Kelat and Kohistan (*the land of mountains*), whose ranges run mostly N. and S., and communicate with each other by several other extensive ranges running E. and W. across the central prov. of Mukran. Those in the E., which separate Beloochistan from Sinde, and bound Cutch Gundava W., are a lateral branch from the Hindoo-Koosh, by which the country is so intersected in various directions 'as to resemble a piece of network': it varies greatly in width; in lat. 30° being 275 m., but at Cape Monze, which is formed by it, it is only 40 m. across: the height of the range has not been measured; but Kelat, the most elevated point, is thought by Pottinger to be 8,000 ft., and by Bell (Notes on Rollin's Anc. Hist.) to be 10,000 ft. above the level of the sea. These 'Brahooic mountains' terminate SW. in a remarkable range running NW. to about $28^{\circ} N.$ lat., where it divides; one arm passing NE. toward the Afghan hills, the other, the Wushatee, or Much mountains, direct W. for two degrees, bounding the desert S., and then uniting with the W. table-land, or that of Kohistan. This latter communicates N., by a long chain, with the Paropamisian mountains W. of Herat, and after enclosing the deserts of Bupoor and Bushkurd by another chain, W., with those of Kerman (Persia). A considerable range passes in a waving manner E., to meet the Brahooic mountains, varying in its distance from the sea from 25 to 100 m., and dividing Mukran into two parts, the coast and the interior. The height of the W. is somewhat inferior to that of the E. mountains.

Excepting those of Lus and Cutch Gundava, which provs. are entirely flat, and that of Wudd, in Jhalawan, there are but few plains of any fertility. The coast division of Mukran is covered by flat barren sands destitute of water, and, excepting date trees, of all vegetation. The desert of Bupoor, a sandy waste, 150 m. long by 80 m. broad, is a continuation of the deserts which prevail in the middle of Persia and the SW. of Afghanistan. It was through the plains of Mukran and the succeeding desert of Bupoor that

Alexander the Great led his army into Persia, during which march so much was suffered from thirst and famine. It is not now believed that his loss of men was so great as has been represented, but the troops kept too near the hills: had they been close to the shore they would have found fresh water on digging a foot or two below the surface.

Cutch Gundava, intersected by some of the W. tributaries of the Indus, is the only well-watered province. The remainder of Beloochistan suffers from want of water, excepting, perhaps, a few rice grounds in the prov. of Lus. There is not a rivulet in the N., and only a few along the coast, which, although sometimes swollen in a few minutes to torrents, by profuse rains, are for the most part of the year nearly dry. The principal stream is the Dust or Moolcedanee (probably the Boodoor of the desert, and, if so, rising N. of the Wushatee mountains, and running a course of 1,000 m. before reaching the sea, in $61^{\circ} 45' E.$ long.); the Poorally (an. *Arabis*), the second in size, rises in Lus, N. of Bela, and falls into the Bay of Soumeany: for 25 m. this stream is navigable for small boats. (Pottinger, p. 297.)

The geology of this region is nearly unknown: the rocks in the mountainous parts are grey or black; the soil is commonly stony, but consisting mostly of a black loam in the valleys; in Kohistan some of the lofty hill tracts are covered by a vegetable mould. Former volcanic action is evident in this province, which yields most of the minerals found in Beloochistan, viz., sal ammoniac, brimstone, alum, nitre, rock-salt, lead, iron, copper, tin, naphtha, &c. (Pottinger, pp. 322, &c.) Gold and silver are found only in Jhalawan, 150 m. SSW. of Kelat; antimony in vast quantity S. of Kelat, sulphur, alum, and a red aperient salt in the hills between Kelat and Cutch Gundava; white and grey marble near Nooshky on the borders of the desert; salt in efflorescence on the plains of Lus.

The climate is healthy except in Mukran. In the mountainous provinces there are four different seasons in the year, as in Europe; the spring from the middle of February to the middle of April; the summer thenceforward to the beginning of August, the heats of which are intense only towards the latter end: the autumn lasts till the October snows; and the winter, which is very severe, for the rest of the year. In the spring there are snow, hail, and violent winds, and the weather is quite as fluctuating generally as in England. In Mukran and Lus there are four seasons; two wet, and a cold and a hot: the cold one is much milder on the coast; the hot one lasts from March to October. In Kohistan the June rains are often very partial, and a famine not unfrequently ensues from drought. Cutch Gundava enjoys a much milder climate than any other province, and is resorted to in the winter by many neighbouring chieftains.

The best timber is that of the *Zizyphus jujuba*, which is similar to teak; the palm tree grows in the W.; the tamarind, neem, peepul (*Ficus religiosa*), sissou, chinar (*Platanus orientalis*), mango, walnut, and sycamore, grow in this and other parts of the country. Fruits of almost all kinds known in Europe, as apples, pears, apricots, peaches, pistachio, nuts, mulberries, pomegranates, with the plantain, guava, &c., are common in many districts. Mukran is famous for its dates, which are exported in large quantities: N. of Kelat the almonds are so fine that they may be blanched with a dry cloth; and melons often grow so large that a man is scarcely able to lift them. (Pottinger, pp. 327, 328.)

Lions and tigers are rare, but both are found on the E. border; hyenas, wolves, and jackals, prevail over the whole country, and wild dogs, which hunt in packs of twenty or thirty. Leopards, wild cats, and other species of the feline tribe, infest the jungles; and wild asses, antelopes, elks, red and moose deer, hares, mongooses, and mountain goats, are common; eagles, kites, magpies, are found round Kelat: water-fowl, herons, flamingoes, bustards, partridges, lapwings, and snipes, are natives: fish abound on the coasts; where they form the chief food of both man and beast, but not in the rivers: *Cheilonia* and *Testacea* are also abundant; vermin and venomous animals are by no means so common as in Hindostan. (Pottinger, pp. 328, 329.)

Pasture being considerably more abundant than arable land, and the population consisting chiefly of wandering shepherd tribes, the number of cattle is considerable. The sheep are of the fat-tailed kind; the goats have rough and black hair: the large cattle are mostly of the black breed, or buffaloes. The horses of Cutch Gundava, and the country S. of Kelat, which are those chiefly sent to India, are large, strong, and bony, but vicious; those of Mukran and Lus are small and spiritless: there are mules and asses; but camels and dromedaries are preferred as beasts of burden. Camel-grass and straw are the chief food of the cattle: in the S. of Mukran and Lus there are two crops of the former yearly, owing to the two wet seasons.

Excepting in Cutch Gundava, which is fertile, well cultivated, and said to be capable of producing enough of grain for all the inhabitants of Beloochistan, not a hundredth part of the country is cultivated: the table-lands yield only the coarser produce of Afghanistan. All the kinds of grain known in India are, however, grown; viz., rice in the marshes on the coast (but it will not thrive in Cutch Gundava, though it be abundantly moist), wheat, barley, *Holcus spicatus* and *sorghum*, maize, sesamum, &c. The wheat and barley do not ripen so soon as in Britain: in the upper parts of Sarawan and Jhalawan the former is sown in August and September, and reaped in June; barley sown a month later comes to maturity in about eight months; maize, in warm and sheltered places, in three or four months. In Cutch Gundava, Lus, and a part of Mukran, wheat ripens in six months, barley in five months, and oriental grain in from two to five months. Cotton, indigo, and madder, are grown, but the indigo does not thrive: all the pulse and vegetables common with us are grown near Kelat. (Pottinger, pp. 324-326; Elphinstone, Caubul, p. 495.)

Manufactures are very few and rude; most of the articles, beyond what are absolutely necessary to the support of life, being imported from neighbouring countries, in exchange for the few natural products. Sugar is prepared near Bela, the canes being pressed in a mill, the juice boiled in flat copper pans, and the article afterwards packed in bags of palmyra-leaf, and exported: the sediment is used for manure. Gum assafetida is extracted from the stalk of the *Ferula assaf.*, by incisions near the root, which permit the escape of the juice: about 1 lb. is obtained from each plant. The gold and silver ores are never worked, but pass into the hands of the Hindoo traders in their rough state. At Kelat there is an armoury belonging to the khan, for swords, spears, and matchlocks; but their workmanship is very clumsy and inferior. (Pottinger, pp. 26-109.)

The principal exports are horses, and other cattle, skins, dates, grain, some rice, cotton, silk, oil, indigo, salt, borax, nitre, &c.; from Lus, grain, felt, and coarse carpets, are sent into Mukran and

Arabia. From the latter country almonds and Caffre slaves are imported, the Caffres being deemed very valuable; from India, iron, tin, lead, steel, copper, indigo, betel-nut, cochineal, sugar, spices, silks, gold-cloths, chintzes, and coarse woollens; from Cabul and Khorassan, steel and copper; from Seistan, white cloths, loongees, turbans; from Sind, Shikarpoor, &c., porcelain, tobacco, coffee, and opium. Broad cloth, Scotch plaids, and other European manufactures, are highly prized.

The people are nearly equally divided between two distinct nations, the Belooches, occupying the W., and the Brahooes, inhabiting the E. division of the country. The former are desirous to be thought descendants of the Arabs, but are not physically like them, and are considered by Pottinger to have been originally Seljukés. They are tall, long-faced, but with not unpleasant features, and have generally strong, active, and athletic frames. They are subdivided into three tribes; the Nharooes, who live W. of the Great Desert, and Rinds and Mughsees, in Cutch Gundava, and near the Desert of Kelat. They are brave, impetuous, inured to fatigue, freebooters, abhorring petty thefts, but applauding wholesale plunder; often wasting and destroying whole districts, yet curiously blending an 'ingenuous hospitality with this predatory ferocity.' Like all pastoral nations, they have no permanent residence, but live in *khails*, or societies of four or five tents, moving about as pasture is found suitable for their flocks and herds. Their food consists of wheat and barley cakes, rice, dates, cheese, sweet and sour milk, legume soup, onions, garlic, assafetida, red pepper, and occasionally flesh. All the Belooches are Mussulmans of the sect of Omar, and their customs are those of other Mohammedans, mixed with some plainly derived from the ancient Jews. Polygamy is allowed, but they treat their women with respect and attention; they have often numerous slaves, and in many respects behave to them with great kindness. They are armed with a matchlock, sword, spear, dagger, and shield, which they commonly derive from foreign traders. They are good marksmen, invariably hitting a target 6 inches square, while on horseback, at full gallop. A popular sport with them is to remove and carry away on the top of a spear, while at full gallop, a stake driven deep into the ground; an operation which requires much dexterity. Cudgel playing, wrestling, warlike exercises, and field-sports, form the rest of their amusements. The dress of the men is a white or blue calico shirt, buttoned round the neck, and reaching below the knees; trousers of the same, puckered round the ankles; slippers; a close quilted cotton cap or turban, and scarf. The women wear long garments of red or brown cotton, reaching to the ankles, but open in front from the bosom downwards; very wide trousers of silk; and the hair either parted in separate locks in front, and then tied up together in a knot on the crown of the head, or covered by a handkerchief. The language of the Belooches is a dialect of the Persian, corruptly pronounced, but from which tongue half the words are borrowed. (Pottinger, pp. 55-67, 270; Elphinstone, p. 495.)

The Brahooes are inferior in height to the Belooches, have short thigh-bones, a round face, flat features, and often brown hair and beards. Their habits are still more unsettled than those of the Belooches, but they are not so predatory, rapacious, avaricious, revengeful, or cruel. Pottinger prefers their general character very much to that of the former, and represents them as active, industrious, laborious, quiet, hospitable, faithful, and more under the control of their chiefs. They live chiefly on animal food, of which they are very voracious,

and are admitted by the Belooches to be better marksmen than themselves. They live either in tents, about 12 yards long by as many feet wide, built of sticks, and covered with coarse blankets, or in houses, which in the towns, as well as the open country, are built of tamarisk or other wooden framework, flanked with mud, or bricks of unburnt clay, and ill-thatched with grass. The men are occupied in the outdoor and the women in the indoor employments, but the latter are not kept secluded, and all mix and eat together. Their religion is Mohammedan; their dress very similar to that of the Belooches, except that felt for caps, and garments of felt, are often worn by the men. Their language is like the Hindoo of the Punjab. (Pottinger, pp. 12-54, 70-76.)

A race called Dewahrs inhabit different parts of the country, who are probably descendants of the Guebres, driven from Persia by the Arabs in the 38th year of the Hegira; they are below the middle height, with blunt features and high cheek-bones; are civil and obliging, though not hospitable; being faithful and trustworthy, the guard of the palace of the khan of Kelat is entirely composed of them. Their language is pure Persian; their treatment of females better than that of any other Moslem people. (Ibid. pp. 80-274.)

Hindooes are tolerated, and monopolise most of the trade in Kelat and the neighbouring provinces, but they are not allowed to settle in Beloochistan with their wives and families. There is a considerable infusion of Hindoo blood and manners among the inhabitants of Cutch Gundava and Lus, where the people are indolent in their habits, and incessantly smoking. In Mukran the people are larger built and darker in colour, from intermarriages with Caffre slaves; the women in this prov. are ill-favoured, and none of them long-lived. (Ibid. pp. 11-30, 78-111.)

The government is nominally under the khan of Kelat, but chiefly in the hands of the sirdars of each individual tribe. The khan, however, can oblige each sirdar or chief to furnish him with a contingent of troops in case of need. The public revenues are perhaps about 350,000 rupees a year (35,000*l.*), a large part of which is paid in produce, which the khan afterwards disposes of to the Hindoo merchants. The taxes are moderate; 1-20th of the produce is paid for lands requiring irrigation and much labour; from 1-16th to 1-10th for other lands: the respective sirdars stop a part of this, in payment of collection. Five rupees is paid for a camel-load of goods entering Kelat, and 1½ per cent. on goods sold, excepting cattle. The khan generally sits in judgment in cases of murder. This crime may sometimes be compromised with the friends of the deceased, but in the event of the murder of a foreigner, immediate execution waits upon the criminal. Adultery may be punished by the death of both, by the hand of the offended party. Burglary and night robbery are capital crimes. Petty differences are adjusted or disposed of by the sirdars, and minor offences are punished by flogging and imprisonment. (Ibid. pp. 289-294.)

Almost all the inhabitants of Beloochistan are nearly barbarous and uncivilised: neither the Beloochee nor Brahoochee are written tongues, and he is greatly honoured, and called 'moollée,' who can read the Koran. They are quite ignorant of all the countries in their neighbourhood, and fancy the British E. I. Company (of which they have heard from the Hindooes) to be 'an old woman with plenty of money.' Medicine they are totally unacquainted with; and to cure a fever they will shampoo or thump the body all over. (Ibid. pp. 26-140, &c.)

This country was quite unknown to Europeans

until the time of Alexander the Great: the hills were then inhabited by a race of savages, the shore by people who subsisted as at present on fish, thence called by the Greeks *Ichthyophagi*. For nearly ten centuries afterwards there are no records of Beloochistan. A caliph of Bagdad, in the year 92 of the Hegira, led an army through it to Sinde; it was afterwards taken possession of by Musaood, son of the Emp. Mahmood, and remained governed by his dynasty till 1739, when Nadir Shah having conquered it, bestowed it, with the title of beglerbeg, on an ancestor of the present khan of Kelat. Until 1758 it was tributary to the khan of Caubul.

BELP, a village of Switzerland, cant. Berne, on the Gurben, at the foot of the Belpberg, near the S. bank of the Aar, 5 m. SE. Berne. Pop. 1,867 in 1860.

BELPECH, a town of France, dép. Aude, cap. cant., at the confluence of the Lers and the Vixiege, 15 m. SW. Castelnaudary. Pop. 2,482 in 1861. There is a manufactory of cloth.

BELPER, a market town and chapelry of England, co. Derby, par. Duffield, and hund. Appletree, 8 m. N. Derby, 54 m. SE. Manchester, and 134 m. NW. London. It has a station on the north branch of the Midland railway. Pop. 9,885 in 1841, and 9,509 in 1861. The town is situated in a valley, through which the Derwent flows. This river is crossed, at the N. end of the town, by a stone bridge of three arches. The town, though irregular, is well built. The market-place, in an elevated situation, is surrounded by handsome shops. Courts leet are held here at Easter and Michaelmas, when the officers of the town, comprising a constable, and other public officers, are elected and sworn. Belper is one of the places for taking votes at the election of M.P. for the S. division of the co. The living is a curacy, in the archdeaconry of Derby, diocese of Lichfield and Coventry: patron, vicar of Duffield. There are places of worship for dissenters, and also Sunday and infant schools, and almshouses. There are some cotton works, giving employment to 2,000 people. The manufacture of silk and cotton hosiery in the town and neighbourhood is very extensive. There are also in the neighbourhood, potteries, bleaching-grounds, and coal-works. The Cromford Canal passes within 2 m. of the town; but its most important channel of communication is the North Midland Railway. The surrounding scenery is very beautiful and picturesque.

BELT (GREAT AND LITTLE), two of the entrances into the Baltic, which see.

BELTURBET, a town of Ireland, co. Cavan, on the Erne, 61 m. NW. by W. Dublin, 64 m. N. by W. Cavan. Pop. 1,789 in 1861, about one-third of whom are Protestants. It is a corporate town, has a good market-house, and a spacious church; but it has no staple manufacture or trade, and is not increasing. There is a considerable distillery within the limits of the bor. It returned 2 mem. to the Irish H. of C., but was disfranchised at the Union. Its trade is injured from there being a rapid or fall in the river on its one side, and a shallow on the other.

BELVEDERE, a town of Southern Italy, prov. Cosenza, on a hill washed by the Mediterranean, 26 m. NNW. Cosenza. Pop. 5,600 in 1862. It has a fort, several churches and convents, and 3 *monts-de-piété*, the revenues of which are appropriated to the portioning of poor girls on their marriage. Its wine and raisins are in considerable repute.

BELVES, a town of France, dép. Dordogne, cap. cant., 14 m. SW. Sarlat. Pop. 2,506 in 1861. It has mills for extracting oil from nuts; and its fairs and markets are well frequented.

BELVOIR, an extra-parochial district of Eng-

land, partly in co. Leicester, partly in that of Lincoln, in hund. Framland of the former, and soke of Grantham of the latter; 98 m. N. by W. London. Pop. 105 in 1831, and 171 in 1861, area 170 acres. The inhabitants are connected with the establishment at Belvoir Castle, the splendid seat of the Duke of Rutland, which crowns the summit of an eminence overlooking the beautiful vale whence its name is derived. The site was first occupied by Robert de Toden, standard-bearer of William the Conqueror, and remained with his lineal descendants till the reign of Henry III., when it passed, by marriage, to the Manners family, in whose possession it has since remained. The structure, which had been destroyed in the wars of the Roses, was rebuilt by the first Earl of Rutland, whose title dates 12 Hen. VIII. In the last civil war it was alternately garrisoned by the royal and parliamentary forces, and was much injured: after the Restoration it was again repaired by the first Duke of Rutland. Great improvements and additions were made to this magnificent pile by the fifth duke, under the direction of Wyatt. Whilst they were in progress a fire nearly destroyed the whole: the irreparable injury was the destruction of the fine picture gallery, in which were several of Sir J. Reynolds's paintings; and amongst others that of the Nativity. The castle is now restored to more than its former magnificence, still preserving the style of an ancient baronial residence.

BENARES, a prov. of Hindostan, formerly included in that of Allahabad, presid. of Bengal; containing the districts of Benares, Mirzapore, Ghazepore, and Juanpore; chiefly between lat. 24° and 26° N., and long. 82° and 84° 30' E.: having N. Goruckpore; E. Bahar; S. the Benar ceded distr.; and W. the territory of the Rajah of Rewah, and the districts of Allahabad and Juanpore. Area 8,670 sq. m. Pop. estimated at about 3,000,000. It consists, for the most part, of a cultivated flat, on both sides of the Ganges, and is, besides, well watered by the Gompti, Sone, Caramnassa, &c. It chiefly produces the drier grains, as wheat and barley, legumes, flax, &c., indigo, sugar, and large quantities of opium. The latter is a government monopoly, and Bahar and Benares are the only provinces in the Bengal presid. in which it is permitted to be grown. This prov. is amongst the most flourishing in India, and increasing greatly in trade and prosperity, particularly since the establishment of railway communication, inaugurated by the opening of the great East Indian line, from Calcutta to the northern provinces. Muslins, gauzes, brocades, and some sort of an inferior kind, are among the manufactures. 1-10th of the pop. in the cities, and 1-20th in the rest of the prov., are Mohammedans; the judicial and other regulations of Bengal extend to this prov. Before 1775 Benares belonged to the nabob of Oude, who, in that year, ceded it to the British.

BENARES (*Varanashi*, Sanscr., or *Kasi*, the splendid), a large and celebrated city of Hindostan, presid. Bengal, cap. prov. and distr. of the same name, seat of a court of circuit and appeal, and one of the six chief provincial cities in the presid. at the head of a judicial division. Lat. 25° 30' N., long. 83° 1' E.; on the NW. bank of the Ganges, about 300 feet above the level of the sea; 65 m. E. Allahabad, and 400 m. NW. Calcutta, on the East Indian railway, from Calcutta to Delhi. Pop. estimated at 600,000. It is the 'most holy' city of the Hindoos; the ecclesiastical metropolis, in fact, of India, and is resorted to by pilgrims from all quarters, especially from the Maharatta countries, and from even Tibet and

Birmah. According to Bishop Heber, it 'is certainly the richest, as well as probably the most populous, city in the peninsula.' Its first view is extremely fine; it extends about 4 m. along the bank of the river, which is considerably elevated, and adorned with large ghauts, or landing-places, with long and handsome flights of steps. 'Its buildings, which are crowded, built of stone or brick, and uniquely lofty; here and there the sculptured pyramidal tops of small pagodas; and the great mosque of Aurungzebe, with its gilded dome glittering in the sunbeam, and two minarets towering one above the other, form a grand and imposing *coup-d'œil*.' The streets are extremely narrow, and the opposite sides approach in some parts so near each other as to be united by galleries; the only open space is the market-place, constructed by the present gov., but the city is well drained and healthy. In 1801 there were upwards of 12,000 houses, from one to six stories high, built of brick or stone, and 16,000 more of mud, with tiled roofs. The former lodge, at an average, about 15 persons on a floor; those of six stories often containing from 150 to 200 individuals each: they are built round a court-yard, and have small windows, many verandahs, galleries, &c.; much painting, carving, and elaborate stonework; and are 'often not unlike those represented in Canaletti's "Views of Venice."' The causeways are much lower than the lower floors of the houses, which have mostly arched rows in front, with little shops behind them: each street, or bazaar, is devoted to a separate trade. The principal public building is the mosque, built by Aurungzebe, on the highest point, and in the centre of the city, which it completely overlooks. A Hindoo temple was destroyed to make room for it. Many other mosques, which remain, are built on equally holy spots, much to the annoyance of the Hindoo population. There are numerous Hindoo temples; and fakirs' houses, as they are called, adorned with idols, occur at every turn. Benares is crowded with mendicant priests; there are said to be 8,000 houses occupied by Brahmins, who live upon the alms and offerings of the pilgrims; only 1-10th of the pop. are Mohammedans; and Europeans, who are few in number, reside not in the city, but at Seroli, a little way off. Turks, Persians, Armenians, Tartars, &c., are settled in Benares. Its trade is considerable in shawls, diamonds of Bundelcund, Dacca and other muslins; in silks, cottons, and fine woollens of its own manufacture, and in European articles. The Hindoo Sanscrit college of this city is the chief seat of native learning in India. It is attended, on the average, by 300 pupils: an English college, established in 1832, has from 140 to 150 pupils. Numerous Christian missions have been established here, and there are private teachers of both the Mohammedan and Hindoo law. One of the greatest curiosities at Benares is an ancient observatory, built before the Mussulman conquest, by the celebrated Rajah Jeh-singh. It is of stone, and contains a large square tower, in which are preserved many instruments, chiefly of stone, some of them having been evidently used for judicial astrology: a few miles to the E. there is a solid stone ruin, similar in appearance to the Buddhist temples in the W. of India, called the Saranath. The country around Benares is fertile and well cultivated, but bare of wood: fuel is, therefore, very dear, and *suttees*, in consequence of this scarcity, are said to have been less common than in many parts of India. The trade of this city has much increased since the opening of a line of railway to Calcutta, which took place on December 22, 1862. This city is

believed by the Hindoos to form no part of the terrestrial globe, but to rest upon the point of Siva's trident: hence, they say, no earthquake ever affects it. In 1017 it was taken by Sultan Mahmud, and from 1190 followed the fortunes of the Delhi sovereigns: since 1775 it has enjoyed tranquillity under the British, interrupted only on one occasion by a religious conflict between the Hindoos and Mussulmans, on the latter breaking down a pillar, called 'Siva's walking-stick.' The rajah of Benares is a pensioner on English bounty, and without any political power.

BENCOOLEN, a marit. town of Sumatra (E. archipelago), and the principal settlement of the Dutch, as formerly of the British, on that island. It stands on the SW. coast, in lat. 8° 49' N., long. 102° 16' E. The town, which is small and well built, is said to be unhealthy; but Fort Marlborough, originally constructed by the British, in 1685, stands a little farther inland, in a healthier situation. The pop. is composed of Dutch and other Europeans, or their descendants, Ooloos, Chinese, Balinese, and Malays. The trade of Bencoolen had greatly declined previously to the cession made by Great Britain in 1825. The imports consist chiefly of cloths, rice and salt, tobacco, sugar, handkerchiefs, &c., from Batavia; opium and various fabrics from Bengal and the Coromandel coast; printed cottons, cutlery, and metallic articles, from Europe; and salted fish, roes, eggs, poultry, oil, and timber, from other parts of the island. The English endeavoured to cultivate the clove and nutmeg here, but the produce was very inferior to that of Amboyna and the Banda Islands. Bencoolen was always an unprofitable settlement to the British, the expenses of its government having uniformly exceeded its revenue. During the five years preceding its cession to the Dutch, the excess of expenditure over revenue amounted to about 85,000*l.* a year. It was ceded in 1825 to the Dutch, in part exchange for the town and fortress of Malacca and other settlements.

BENDER, a town of European Russia, prov. Bessarabia, on the Dniester, about 58 m. from the Black Sea. Pop. 18,100 in 1868. The town is fortified by a wall and ditch, and has a citadel on an eminence. In 1770, the Russians took this town by storm, and reduced it to ashes. They again took it in 1809, and it was finally ceded to them, with the prov. of Bessarabia, by the treaty of Bucharest in 1812. It was formerly a place of much greater consequence than at present; and is said, previous to its capture in 1770, to have had 30,000 inhabitants. In its vicinity is Varnitza, the retreat of Charles XII. after the battle of Poltava.

BENE, a town of Northern Italy, prov. Mondovì, on a hill between the Stura and Tanaro, 16 m. NE. Coni. Pop. 6,127 in 1862. It is defended by an old castle; has a collegiate church, and a hospital.

BENEVENTO (an. *Beneventum*), a city of Southern Italy, cap. of province of the same name, on the declivity of a hill between and near the confluence of the Calore and Sabato, 82 m. NE. Naples; on the railway from Naples to Foggia. Pop. 18,882 in 1862. It is surrounded by walls, and defended by a castle. The modern town occupies the site of the ancient one, and is almost entirely constructed out of the ruins of the latter. In fact, with the exception of Rome, hardly any Italian town can boast of so many remains of antiquity as Benevento. Of these the most perfect, and by far the most worthy of notice, is the arch of Trajan, now the *Porta Aurea*, erected in honour of the great emperor whose name it bears, about A.C. 114. This singularly beautiful structure is of white

marble, of the composite order, and consists of a single arch. Its total height is 52 ft., the intercolumniations and friezes being covered with basso-reliefs, representing the battles and triumphs of the Dacian war. These, which are of the most exquisite workmanship, are a good deal mutilated; but otherwise this noble fabric is nearly entire. The cathedral is a clumsy edifice, in the walls of which the finest remains of antiquity are huddled together without any regard to order. The cupola of the church of St. Sophia rests on a circular colonnade of antique marble; and scarcely a wall is to be seen that is not filled with fragments of altars, tombs, columns, and other relics of the old city. Benevento is the seat of an archbishopric, and has a fine *palazzo publico*, or town-hall, a seminary with a good library, a college, an orphan hospital, three other hospitals, and two *monti di pietà*. Considerable fairs are held at different periods of the year. It suffered severely from the plague in 1656, and from an earthquake in 1688.

Benevento is very ancient, its origin being ascribed to Diomed. It was first called Maleventum; but, on being taken and colonised by the Romans, it was called Beneventum. In its vicinity, in 1266, was fought the great battle between Charles of Anjou and his rival Manfred, in which the latter was killed, and his army totally defeated. During the ascendancy of Napoleon, Benevento was formed into a principality, conferred on M. de Talleyrand; but, on the downfall of Napoleon, it again reverted to the pope, till, in 1860, it was annexed, together with Naples, to the kingdom of Italy.

BENGAL (PRESIDENCY OF), a territory of Asia, the most important and extensive of the nine great provinces into which the British dominions in the East are divided. The presidency extends between lat. 20° and 31° N., and long. 74° to 91° E., having N. Bootan, Nepaul, and the Indus; W. the latter, the territories of the Sikhs and Rajpootana; S. the territories of Berar, the Madras presidency, and the Bay of Bengal; and E. the Birmanese dominions. The total area of the Bengal presidency amounts to 261,380 Eng. sq. m., inhabited, according to returns of the year 1862, by a population of 40,466,690 souls. (Statistical Tables relating to the Colonial and other Possessions, Part ix.) The troops stationed in Bengal on the 30th April, 1862, numbered 87,122, divided as follows:—

	Commissioned Officers	Non-commissioned Officers and Men	Native Commissioned and Non-commissioned Officers and Men	Total
Staff and Staff Corps	60	73	—	139
Engineers, Sappers, and Miners	16	171	690	877
Horse and Foot Artillery	307	6,480	88	6,875
Cavalry	32	4,064	9,382	13,767
Infantry	1,431	34,796	29,050	65,277
Invalids and Veterans	43	144	—	187
Total	2,184	45,728	39,210	87,122

The presidency is divided into the Upper or Western, the Central, and the Lower provinces; the former including Delhi; the Central, Allahabad, Behar, and others; and the Lower prov., Bengal, and the rest still farther E. These provs. are divided into fifty districts, of the following area and population:—

Districts	Sq. Miles	Population
Jessore	3,512	381,744
Twenty-Four Pergunnahs	1,186	298,000
Burdwan	2,224	1,854,182
Hooghly	2,069	1,520,840
Nuddah	2,942	298,746
Bancoorah	1,476	480,000
Baraset	1,424	522,000
Bhangulpore	8,806	2,000,000
Dinaapore	3,820	1,300,000
Monghyr	2,558	800,000
Poorneah	5,878	1,600,000
Tirhoot	7,402	2,400,000
Maldah	1,000	431,000
Cuttack	3,061	1,000,000
Pooree	1,768	—
Balasore	1,878	556,296
Midnapore and Hidgelee	5,029	666,828
Koordah	930	571,160
Moorsheadabad	1,856	1,045,000
Bagoorah	2,160	900,000
Rungpore	4,130	2,558,000
Rajshaye	2,084	671,000
Pubna	2,606	600,000
Beerbhoom	4,730	1,040,876
Dacca	1,980	600,000
Furriedpore and Deccan	2,052	855,000
Jelalpoore	—	—
Mymensing	4,712	1,487,000
Sylhet, including Jyntea	8,424	380,000
Bakergunge, including Deccan Shabazpore	3,794	733,800
Shahabad	3,721	1,600,000
Patna	1,328	1,200,000
Behar	5,694	2,500,000
Sarun, with Chumparan	2,560	1,700,000
Chittagong	2,560	1,000,000
Tipperah and Bulloah	4,850	806,350
The Sunderbunds	6,500	1,000,000
Cossya Hills	729	10,953
Cachar	4,000	60,000
Lower Camroop	2,788	300,000
Nowgong	4,160	70,000
Assam Durrung	2,000	80,000
Upper Joorhat (Seebpoor)	2,965	200,000
Luckimpoor	2,950	30,000
Assam Sudia, inc. Mutruck	6,942	30,000
Goalpara	3,506	400,000
Arracan	15,104	321,522
Tenasserim Provinces	29,168	115,431
Sumbulpore	4,693	800,000
Rangurh or Hazareebah	8,524	372,216
Lohur-Chocta Nagpore	5,308	482,300
dugga Palamow	3,468	—
Singbhoom	2,944	200,000
Maundhoom Pachete	4,792	—
Barbhoom	860	772,340

The principal cities are Calcutta, the British cap. of India; Delhi, the Mohammedan capital; with Benares, Moorsheadabad, Dacca, Behar, Patna, Allahabad, Agra, and Lahore.

The surface of this vast territory has, in different parts, every variety of elevation and aspect. But by far the larger portion consists, notwithstanding, of immense plains, including those of the Ganges and Brahmaputra. Exclusive of the Himalaya and Garrows mountains, which bound it N. and E., it has no mountains of any importance, with the exception of the Vindhyan range, S. of the Ganges.

Physical Features.—No part of India is so well watered, or has so many great rivers. The Ganges flows in a SE. direction through the whole extent of the presidency, being joined in its progress by numerous tributaries, some of them, as the Jumna, Chumbul, Gogra, Gunduck, and Sone, of great magnitude and importance. It is also traversed in its E. parts by the Brahmaputra, which, as well as the Ganges, falls into the N. part of the Bay of Bengal, near each other. Both of them, but especially the Ganges, divide into numerous arms before reaching the sea; and their united deltas form a tract of allu-

vial soil of above 30,000 sq. m. in extent, and great natural fertility, but mostly overrun with jungle. There are no lakes similar to those in Tibet, or other parts of Asia: but many extensive lagoons, or *jeels*, especially in the lower prov., and above all in the districts of Dacca and Rajshayee.

Every kind of scenery is met with in this presidency. Kumaon, the most N. part, is a 'vast and tumultuous ocean of mountains,' elevated in successive ridges to 7,000 ft. in height, backed by the snowy ridge of the Himalaya, and covered in great part with an uninterrupted forest of both Asiatic and European vegetation. The W. parts of Delhi trench on the Indian desert, and have an arid look, and thirsty soil; other portions of this prov. are also flat, but fertile and highly cultivated. The Doab is flat, and abounds in long grass, but is singularly deficient in timber. Allahabad is amongst the most productive prov. in Hindostan; its surface is unequal, the S. part rising progressively into a hill tract, which extends through Bandah and part of Kalpee districts. Bundelcund and the ceded districts on the Nerbudda form part of the high central table-land of India; they abound in deep ravines, fertile valleys, and extensive forests; but are in many parts sterile, as are also some of the distr. even in the neighbourhood of the Ganges. The central provs. are undulating, often well cultivated, intersected by rivers, and adorned in many parts by groves and forests. Behar, N. the Ganges, is flat and waste; but is very fertile on the S. side of that river; its height also increases as it advances more to the S., so that in Ramghur we find a mountainous and rocky country two-thirds waste, participating in the natural features of the Gundwanah districts, joining those on the Nerbudda. Orissa, near the sea coast, is low and swampy; but its interior contains cultivated plains and dense jungles, backed W. by a mountainous forest region, which descends gradually through the Jungle Mehals and Beerbhoom, into the lowlands of Bengal. The latter are enclosed, both toward the sea and the N. border, by immense belts of jungle, and have E. the noble valley of the Brahmaputra, which constitutes the prov. of Assam. From Sylhet to Aracan the interior is extremely hilly, the coast swampy, but the surface often very fertile and well cultivated: the other ceded Birmeese provinces have dense forests and jungles, rice-plains, and a rocky coast, preceded by low islands.

Geology and Minerals.—The Himalaya, in Kumaon, is composed of granite, gneiss, porphyry, quartz, mica, and hornblende; and its lower ranges contain sandstone, brecciated limestone, copper, and iron ores. The Vindhyan mountains betray a volcanic character throughout, and the Garrows mountains, on the opposite side of the delta of the Ganges, exhibit a similar structure. Tertiary beds are met with in Sylhet and where the Brahmaputra issues from the Assam valley, containing organic remains of crocodiles, *Testacea*, &c. The Bhaugulpore distr. is peculiarly rich in iron, and considerable mines have formerly been worked; the ore is nodular, and yields 20 to 25 per cent. metal. In the Sylhet hills there is a fine granular iron; and in Ramghur, on the banks of the Jumna, and in the Himalaya, ore is found yielding 30 to 60 per cent. Coal, in conjunction with iron, is found in considerable quantity both in Burdwan and Sylhet; that of the former distr. is preferred, and is largely consumed at Calcutta: some has recently been discovered in the Saugor distr., on the Nerbudda, which showed near the surface. The upper soil is dry, light, and sandy, in the NW.; clayey in the Doab and its neighbourhood; sandy again in Allahabad; and a

shallow alluvium in the delta of Bengal. In Behar, and elsewhere, it affords efflorescences of nitre and muriate of soda, in immense quantities; the former in greater abundance than in any other part of the world. The annual export of nitre from Calcutta has, of late years, been about 200,000 bags; sent chiefly to Great Britain, China, America, and France. The manufacture of salt is a gov. monopoly, within the provs. of Bengal and Behar, and the district of Cuttack. The upper provs. are supplied with salt, partly from the lower ones, and partly from salt mines in the W. of India. Diamonds are found in Bundelcund, the matrix being a conglomerate bed, with quartzose pebbles; silver, and gold dust, in many rivers.

The Climate, in so wide an extent of country, is, of course, very varied; at Calcutta, the annual mean temp. was found, by three years' observations, to be $78^{\circ} 39' F.$; at Benares, for two years, $77^{\circ} 81'$; and at Saharanpore (Delhi), $78^{\circ} 5'$: the barometer, at each of these places, for like periods, averaged respectively 29.764, 29.464, and 28.766 inches. June is the dampest, January the driest month; drought is often experienced in the upper prov., where the depression of the moistened thermometer sometimes exceeds 85° ; but at Calcutta the average fall of rain for three recent years was 59.88 inches. Bengal prov. is subject to fogs; from these Tirhoot (Behar) is free, and temperate, producing almost every European fruit and vegetable; the upper provinces are also temperate, excepting in the hottest season, when burning winds prevail, occasionally obliging the inhab. to resort to underground habitations. In Kumaon the surface is wholly covered with snow from September to April, although, during the rest of the year, the thermom. in the sun often rises to 110° Fahr.

Vegetable Products.—Teak, saul, sissoo, banyan, ebony, rattans, bamboos, and a large number of trees, yielding material for cordage; oaks and pines in the hill forests; and along the coasts of the Bay of Bengal, cocoa, areca, and other palms, are met with in profusion. (See HINDOSTAN.) The lower provinces are highly favourable to the production of rice, the staple article of food, and consequently of production; the central and upper provs. to that of the drier grains; European products, and those peculiar to the tropics, being raised in alternate seasons. Grain forms a valuable export from Bengal. Indigo is cultivated from Dacca to Delhi, and occupies more than 1,000,000 statute acres; its annual produce being worth from 3 to 4 mill. sterl., half of which is expended in its production. There are 900 indigo factories in the presid., and the exports to Europe of the article amounts, in some years, to 9,000,000 lbs. The culture of opium is monopolised by the government, and is carried on only in parts of Behar and Benares. The opium grown in these provs. is considered by the Chinese, by whom it is mostly all made use of, to be much superior in flavour to the opium of Malwah. The average annual produce of the Patna and Ghazee pore, or Benares State opium manufactories, is 45,000 chests, each sold at 120*l*. The produce is sufficient to bar competition in China, and the price proportionate to the Bombay drug, which pays 60*l*. duty. On an average of years, Bengal has never sent less than five millions sterling worth of opium to China. Cotton also is largely grown, and the cultivation has increased immensely since 1861, owing to the dearth occasioned by the civil war in the United States. The soil of Benares is especially adapted to the sugar-cane, and sugar might, perhaps, be produced, were sufficient care taken in its manufacture, of as good quality as that of the W. Indies. Coffee,

pepper, and tobacco, the latter chiefly in Bhaugulpore and Bundelcund, are staple exports; the rare spices of the E. archipelago have been naturalised at Calcutta, and a multitude of trees, fruits, and other vegetables of China, Caubul, Europe, and America, are grown in different parts of the presid.

Animals.—Alligators abound in the Ganges and Brahmaputra; tigers infest the jungles; and we meet with wild elephants, rhinoceroses, leopards, wolves, bears, jackals, a great variety of birds, a profusion of fish, and different species of serpents, both innocent and noxious. (See HINDOSTAN.) Silk is procured from both the native and the Chinese or annular worm; the mulberry and castor oil plants being cultivated for the purpose. The produce is, perhaps, inferior to that of Italy, though the best Indian silk fetches a very high price: the silk distrs. lie chiefly between 22° and 26° lat., and 86° and 90° long.

Races of Men.—A number of widely differing tribes inhabit the territ. under this presid.: Hindoos, differing in physical and mental qualities in almost every prov.; the hill-people in Bhaugulpore, and Gonds in Gundwanah, of which tracts they are believed to be the aborigines; Mahrattas, Moguls, Seiks, Rajpoots, especially in Delhi, Bundelcund, and Oude; Cooshes, Khyens, Garrows, Coosyahs, and Mughs, ultra Gangetic nations, all apparently of a different family from the Hindoos, with quite different usages and religion. (See INDIA.)

Public Revenue.—The total revenue of the presidency, in the three years 1860–62, as well as the expenditure during the same period, is given in the subjoined statement:—

Years ending April 30	Revenue	Expenditure
	£	£
1860	12,803,214	4,196,034
1861	14,098,104	4,630,181
1862	13,766,007	4,836,678

The revenue of the presidency is chiefly derived from three great sources, namely, the land-tax, customs, and the monopoly of opium. The land-tax, including excise, 'Sayer' (variable imposts, such as town duties, tolls, and licences), and 'Mourpaha' (tax on houses, shops, and trades), was productive of a revenue of 3,820,080*l.* in 1860; of 3,900,988*l.* in 1861; and of 4,342,109*l.* in 1862. The customs produced 2,003,009*l.* in 1860; 2,200,212*l.* in 1861; and 1,277,966*l.* in 1862. Finally, opium was productive of a net revenue of 3,636,453*l.* in 1860; of 3,316,613*l.* in 1861; and of 1,603,705*l.* in 1862. It will be seen that the latter important source of revenue suffered a great decline. Of the minor items of revenue, stamps produced 637,789*l.*; salt, 1,603,705*l.*; income and assessed taxes, 576,368*l.*; and the post-office, mint, and miscellaneous items, 465,104*l.* in the year 1862.

Religion.—The Hindoo and Mohammedan are the prevailing religions. In the prov. Bengal, the Mohammedans constitute about one-seventh of the pop., but their distribution is remarkable, as in the W. of that prov. (and in Bahar) they are to the former but as 1 to 4, while they equal their numbers in the E., although more distant from the original seat of Mohammedan power. The Mussulmans live mostly in the cities and towns, where they sometimes even outnumber the Hindoos. Buddhism is confined to Aracan and the Birmeese provs. There are upwards of 50,000 native Christians, attending the different Protestant churches stationed in the presid. The church establishment consists of the Lord Bishop

of Calcutta (to whom the other bishops in India are subordinate), an archdeacon, and 37 chaplains. There is also a small public establishment of the Scotch kirk. The Roman Catholic estab. receives the countenance and support of gov.; its members are subordinate to a vicar apostolic at Agra, with direct authority from the pope; and a legate at Calcutta, under the authority of the R. C. bishop of Madras. Christianity is said to be increasing.

Railways.—There are three great lines of railway in the presidency, called, respectively, the East Indian, the Eastern Bengal, and the Calcutta and South Eastern. Of the portion of the East Indian, situated in the Bengal division, 674 miles were open in 1864. The Eastern Bengal, incorporated Aug. 25, 1857, consists of a line from Calcutta to Dacca, *via* Pubna, with a branch to Jessore; total length, 110 miles. The railway was opened throughout Nov. 15, 1862. The Calcutta and South Eastern, incorporated July 3, 1857, and opened Jan. 22, 1863, consists of a line from Intally to the Mutla, 284 miles long. All these lines were constructed by English engineers, and with English capital. The Eastern Bengal railway was made at a cost of 1,493,292*l.*, and the Calcutta and the Calcutta and South Eastern at a cost of 500,000*l.* The land required for the latter line was given by the Indian government.

History.—In 1707, Calcutta, which had previously been subordinate to Madras, was made a separate presid.; and in 1726, a charter was granted to the comp. enabling them to establish a penal court there, as well as at the other presid. In 1760, by a treaty with Meer Cosim, the soubahdar of Bengal, the revenues of Burdwan, Midnapore, and Chittagong, were assigned to the E. I. Comp. and in 1765 an imperial grant from Shah Allum to the English to receive the revenues of the dewanny of Bengal, Bahar, and Orissa, gave them the virtual sovereignty of those provinces, which they actually assumed in 1772. In 1773 a governor-general was appointed to reside in Bengal, to which presid. the two others were made subordinate, and a supreme court of judicature established, with judges appointed by the crown; in 1775 the comp. became possessed of Benares and its territory. In 1793, under the administration of Lord Cornwallis, the Perpetual Settlement was introduced into Bengal; prov. courts of appeal were at the same time established in Calcutta, Patna, Moorsheadabad and Dacca, with the courts of sudder dewanny, and nizamat adawlut: in 1798, the English took possession of Allahabad; in 1801, the soubahdar of Oude relinquished Rohileund, Goruckpoor, and the Doab, to the British; and in 1802, the nabob of Furruckabad ceded his territory on receipt of a pension. In 1805, the empire of Delhi finally fell before the British arms. Kumaon was obtained from Nepal in 1815: Saugor and the territories on the Nerbudda were ceded in 1818; in 1824, Singapore and Malacca, the latter ceded by the Dutch, were acquired; and in 1826, large distr. in Gundwanah were ceded by the rajah of Berar; Aracan, Martaban, Ye, Tavoy, and Mergui, were ceded also in 1826 by the Birmeese, as well as all dominion over Assam. The capital of Bengal has always been the seat of the British government in India. The governors-general, since 1758, have been as follows:—

1758 Col. R. Clive.
1760 J. L. Holwell, Esq.
1760 H. Vansittart, Esq.
1764 J. Spencer, Esq.
1765 Lord Clive.
1767 Harry Verelst, Esq.
1769 J. Cartier, Esq.
1772 War. Hastings, Esq.

1785 Sir J. Macpherson.
1786 Marq. Cornwallis.
1793 Lord Teignmouth.
1798 Marq. Wellesley.
1805 Marq. Cornwallis.
1805 Sir G. Barlow.
1807 Earl of Minto.
1813 Marquis of Hastings

1823 Lord Amherst.	1847 Marq. Dalhousie.
1828 Lord W. Bentinck.	1855 Lord Canning.
1835 Lord Auckland.	1862 Lord Elgin.
1842 Lord Ellenborough.	1863 Sir John Lawrence.
1844 Sir Henry Hardinge.	

(For further details regarding the presidency of Bengal, see INDIA.)

BENGAZY (an. *Hesperis* and *Berenice*), a marit. town of N. Africa, district Barca, reg. Tripoli, on the E. coast of the Gulf of Sidra (an. *Syrtis Major*); lat. $32^{\circ} 7' 30''$ N., long. $20^{\circ} 2' E$. Estimated pop. 3,000. It is finely situated on the margin of an extensive and very fertile plain, but is miserably built, filthy in the extreme, and infested to an almost intolerable extent with flies. The harbour, which seems to have formerly had deep water, is filled up, so that it cannot now be entered by vessels drawing more than 7 or 8 ft. water; and that only in moderate weather. At the entrance to the port is a castle, the residence of the bey, but worthless as a means of defence. Notwithstanding its poverty, and the indolence of its Arab inhabitants, Bengazy has some trade, principally carried on by Jews. The value of the exports, consisting principally of wool, oxen, and sheep, salted butter and corn, amounts, on the average, to about 12,000*l.* per annum. The trade is mostly carried on with the other Barbary states and Malta.

It is believed that Bengazy occupies the site of the ancient Berenice, which had the gardens of the Hesperides in its vicinity. It is singular, that though its walls were completely repaired under Justinian, hardly a trace of them is now to be met with. In fact, scarce a vestige of the old city is to be found above the surface of the plain; but very extensive remains are found on digging a foot or two below the surface.

BENGORE HEAD, a promontory of Ireland, N. coast, co. Antrim, adjoining the Giant's Causeway: lat. $55^{\circ} 16' 10''$ N., long. $6^{\circ} 23' 20''$ W. This remarkable promontory is made up of a number of capes. Of these the most perfect and striking is Pleaskein. 'Its summit,' to use the words of the Rev. Mr. Hamilton, 'is covered with a thin grassy sod, under which lies the natural rock, having generally a uniform hard surface, somewhat cracked and shivered. At the depth of 10 or 12 ft. from the summit, this rock begins to assume a columnar tendency, and forms a range of massy pillars of basalt, which stand perpendicular to the horizon, presenting, in the sharp face of the promontory, the appearance of a magnificent gallery or colonnade, of upwards of 60 ft. in height. This colonnade is supported on a solid base of coarse black, irregular rock, nearly 60 ft. thick, abounding in blebs or air-holes; but though comparatively irregular, it may be evidently observed to affect a peculiar figure, tending, in many places, to run into regular forms, resembling the shooting of salt and many other substances, during a hasty crystallisation.

'Under this great bed of stone stands a second range of pillars, between 40 and 50 ft. in height, less gross and more sharply defined than those of the upper story; many of them, on a close view, emulating even the neatness of the columns in the Giant's Causeway. This lower range is borne on a layer of red ochre-stone, which serves as a relief to show it to great advantage.

'These two admirable natural galleries, together with the interjacent mass of irregular rock, form a perpendicular height of 170 ft.; from the base of which, the promontory, covered with rock and grass, slopes down to the sea for the space of 200 ft. more, making, in all, a mass of near 400 ft. in height, which, in beauty and variety of colouring, in elegance and novelty of arrangement, and in

the extraordinary magnitude of its objects, cannot readily be rivalled by anything of the kind at present known.' (Letters on the Coast of Antrim, 12mo, ed. p. 91.)

BENGUELA, a country of W. Africa, the limits of which are usually considered to be the Coawra river on the N., the Cumene river on the E., the mountains behind Cape Negro on the S., and the shcre from that cape to the mouth of the Coawra on the W. According to this outline, it extends from 9° to 16° N. lat., and from 12° to 17° E. long., having a mean length of 460 m., a breadth of 270 m., and an area of considerably more than 1,000,000 sq. m. (Labat, *Relat. Hist. de l'Ethiop. Or.*, i. 67; Barbot, *Voyage to Congo River*, p. 501.)

Face of the Country.—Benguela appears to be mountainous throughout its whole extent; the land rising sometimes so high that, if it do not actually reach the snow-line, a very great degree of cold is experienced. (Battel, *Purchas' Pilgrims*, ii. 275; Bowditch's *Portuguese Discoveries*, p. 62.) These mountains come down to the sea, are in general very difficult of passage, but, like other African elevations, rise in masses rather than peaks, and abound in terraces, table-lands, and valleys, to their very summits. The rivers are numerous and important, and as the direction of the mountains is from NE. to SW., the chief of them run a NW. course to the Atlantic. This is the case with the large river, without a name, which falls into the ocean at Cape Negro, and with the Cobal, Coporao, Catumbela, and Cuvo. Besides these, which are very large, there are an immense number of small streams running short and almost straight across from the W. flanks of the mountains, and the various affluents of the principal rivers are almost innumerable; in addition to which, springs of sweet water are so abundant, that in almost every part of the country, they may be found by digging to the depth of two feet. The natural consequence of this abundant moisture in tropical countries is observed in Benguela, and nowhere is vegetation more abundant or more varied. Dense forests of cedars, palms, boobash, date-trees, tamarinds, with every other tropical tree—and some that belong to more temperate climates, clothe the sides and tops of the mountains, intermixed with vines, bananas, ananas, and all the finest species of tropical fruit. Lions, tigers, elephants, rhinoceroses, hippopotami, and other large animals, are extremely numerous; in addition to which, the zebra is very commonly met with, and, in short, every wild animal for which Africa is noted is found within the limits of Benguela. The elk (which is also a native here) is particularly prized, from its being supposed that one of his hoofs has power to cure the epilepsy; deer and antelopes, of course, are abundant. Cattle, sheep, and goats, are very numerous. The ostrich is also found here, with all the reptiles, dangerous and harmless, for which this part of Africa is so much reputed; crocodiles being especially numerous and powerful. The mountains are known to yield copper, sulphur, petroleum, and crystals; and are supposed to possess gold and silver. Some of the rivers unquestionably bring down the former, but probably in small quantities, which the natives work into the handles of their hatchets.

The rainy season is accounted, in Benguela, to last through May and June; but it is extremely irregular, and sometimes no rain falls for the space of three years. (Bowditch, vol. ii.) The coast is, by all accounts, excessively unhealthy; but the interior is salubrious, and apparently well fitted for cultivation of all kinds; every degree of temperature seems to be experienced at different

elevations, and it probably is not exposed to the uncertainty of rain, which exists on the coast. Batel, who resided in different parts of the interior for a considerable time, never, amongst all his miseries, complains of the climate.

Benguela is inhabited by a number of petty tribes of independent barbarians, whose habits and manners do not differ from those of other negroes, with the exception of one—the Gagas, or Gigas, a wandering herd of robbers, which appear to approximate nearer to perfect barbarism than any other, even of the African races. They are of no tribe nor nation, destroy all their own children, and keep up their strength and numbers by stealing those of twelve or thirteen years of age from the countries which they overrun. They are bold and skilful soldiers, but ruthless cannibals, without the slightest idea of art or industry, so that wherever they encamp, they destroy all around, and then depart, to inflict the same desolation on some other district. They appear frequently to cause a famine, where such a calamity would otherwise seem to be impossible, verifying the animated description of the locust:—'Before them is a garden, behind them a barren desert.' Batel, who was their prisoner for more than two years, has left a full and curious account of these savages, which carries the impress of truth on every line. Benguela was formerly subject to Angola, at least nominally, and was accounted one of the seventeen provinces of that kingdom. The Portuguese have long had settlements on the coast and the interior, but their power does not seem to extend far beyond their forts. See ANGOLA. (Batel's Purchas, ii. 974-977; Barbol, p. 501; Merolla, pp. 60-68; Labat, i. 66-70; Bowditch, pp. 26-64; Capt. Owen's Nar. of Voy., ii. 271-275.)

BENGUELA VELHA (*Old Benguela*), the native capital of the country above described, lat. $10^{\circ} 45'$ S., long. $15^{\circ} 5'$ E. It is well situated on the coast, between the rivers Cuve and Lonja, in a very fruitful champaign country, and about 8 m. to the S. is a convenient harbour, called by the sailors Hen's Bay, from the number of domestic fowl which are collected about it. There are no accounts preserved of the pop. or other statistics of Old Benguela; its trade, if it ever had any, having long since been transferred to

BENGUELA (ST. FILIPE DE), the Portuguese capital of the same country, lat. $12^{\circ} 12'$ S., long. 15° E., about 100 m. S. of the old town. Pop. about 3,000, the greater portion being free blacks or slaves. It is a wretched place, built of half-baked bricks, and so slightly that no tenements are ever repaired, but as soon as they begin to decay, others are built by their sides. It stands on an open bay, and is watered by a tolerable stream, formed by the junction of two small rivers. Its site is a marsh, full of stagnant pools, and so extremely unhealthy, that the Portuguese affirm none of their countrywomen could endure it three months. It was once nearly destroyed by an invasion of elephants, a number of them having entered it in search of water during the dry season; and danger always threatens the inhabitants from the alligators and hippopotami in the river.

BENICARLO, a marit. town of Spain, in Valencia, on the Mediterranean, 25 m. S. Tortosa. Pop. 6,950 in 1857. The town is defended by walls, a ditch, and an old castle. Streets narrow and dirty, and the houses mean. The surrounding territory is very fruitful, particularly in wine; large quantities of which, of a dark red colour, considerable strength and flavour, are shipped from this town, whence it has its name, principally for Cette. It is thence conveyed to Bordeaux, where

it is employed to give body and colour to the clarets, especially to those exported to the English markets. (Henderson on Wine, p. 194.)

BENIN, a country of Africa, near the E. extremity of the Gulf of Guinea, between 4° and 9° N. lat., and 4° and $8\frac{1}{2}^{\circ}$ E. long. It has S. the Gulf, W. Dahomey, N.W. Yarraiba, and N.E. and E. the lower Niger, which separates it from the states of Nyffe, Jacoba, Funda, and Calabar. It has a triangular form, is about 340 m. in length, by 300 m. in extreme width, and contains probably not less than 50,000 sq. m. (Adams' Remarks on Coast from E. Palmas to N. Congo, pp. 109-125; Clapperton's Second Exped., pp. 1-37; Lander's Travels, pp. 632-694.) On the coast, the country is level, but it rises gradually, till, in the central parts, the continuation of the Korg mountains attains an elevation of 2,500 ft. It is well watered, for the delta of the Niger comprises more than 140 m., that is, more than 7-10ths of the whole sea-board. The W. branch of this delta is the stream which has always been called the river of Benin; the farthest E. is the main limb, formerly called the Nun; but demonstrated by Lander to be the Niger. (See NIGER.) Besides these, there are several other streams upon the coast, nor can there be any doubt but that the mountains give forth many affluents to the great river in the interior. (Smith's Voyage to Guinea, p. 227; Lander, p. 467 *et seq.*; Adams, pp. 109, 119, &c.) Under the influence of abundant irrigation, and a tropical sun, the productions of the earth are very numerous. They do not, however, differ from those of other parts of the same coast, except that wood is rather more abundant. (Adams, p. 111.) The hippopotamus is more common than in other countries of Guinea (Lander, p. 639), in proportion to the more magnificent scale of the hydrography; but in other respects, the animals of Benin are also described in those of Guinea generally; and the same remark will apply to the habits and customs of the natives: the same arts, with the exception of gold working, for gold is not found in Benin (Adams, p. 170); the same government; the same religion (Fetichism); the same festivals, marked by the same disgusting cruelties, are observed here as in Ashantee (see ASHANTEE), with one additional aggravation, namely, the annual sacrifice of human victims to the power of the sea. (Adams, p. 115.) Benin is well peopled; the capital contains 15,000 inhab., and the town of Warre 5,000. (Adams, iii. 123.) Clapperton also found the N. frontier, on the Akinga river, very populous, as did Lander that of the E., upon the banks of the Niger. Previously to the nominal abolition of the slave-trade, this country was the great theatre of that traffic. An annual fair is held at Bonny, on the coast, at which not fewer than 20,000 slaves are sold, of whom it is alleged 16,000 are brought from the single district of Heebe or Eboe, a port of Benin, on the right bank of the Niger. Some few of these are sold to native masters, as the kings of New and Old Calabar, but the vast majority are disposed of to foreign traders, and are shipped principally for Brazil and Cuba. (Adams, p. 129; Buxton, *passim*, &c.) A more harmless trade, and to a considerable extent, is carried on in salt, palm oil, and blue coral.

BENIN, a large town of Africa, cap. of the above kingdom; lat. $6^{\circ} 15'$ N., long. $5^{\circ} 58'$ E. Pop. estimated about 16,000. It stands on the right bank of a large stream, hitherto called the river of Benin, but now known to be one of the numerous mouths of the Niger; it is built without any order, the houses being detached from each other, and consequently occupying a great deal of ground.

They are large, constructed of clay, and neatly thatched with reeds, straw, or leaves. There is an almost continual market for cattle, sheep, goats, pigs, poultry, yams, cotton, ivory, and European wares; it was also formerly the great emporium for slaves; but the river not being navigable for large ships higher than 40 m. below Benin, this traffic is now carried on nearer the coast, and chiefly at Brass, the outlet of the main branch of the Niger. Benin has a system of municipal government resembling that of more civilised communities. Gatto, or Agatton, is the port of Benin; it lies about 40 m. down the river, or rather on a large creek which the former gives out from its bank, and is accessible to craft of the burden of 60 tons. It is said to be larger and more populous than Benin itself. The surrounding country is well wooded, fertile; but low, flat, swampy, and very unhealthy. It was here that Belzoni died of dysentery in 1823, on his road to Housea and Timbuctoo. (Smith's Voyage to Guinea, p. 234; Adams's Remarks on the Country from Cape Palmas, p. 111, &c.; Nouvelles Annales des Voyages, xxii. 142.)

BENIN (BIGHT OF). The coast of Benin is so called. It is a considerable indentation of the Gulf of Guinea, extending from the Akinga to the Niger. It is an iron-bound coast, offering no entrance to vessels, except at the mouths of rivers, and scarcely there, if the vessels be of much burden.

BENIN (RIVER OF), called also the FORMOSA, falls into the Gulf of Guinea, about 180 m. below Benin, in lat. $5^{\circ} 40' N.$, long. $5^{\circ} E.$ It is a deltoid branch of the Niger, commencing at Kirree, about 100 m. above Benin, and its whole course, inclusive of windings, may be about 210 m. (See NIGER.)

BENISUEFF, a town of Egypt, cap. prov. same name, on the W. bank of the Nile, 64 m. S. Cairo. Pop. estimated at 7,000. It has a line of railway to Cairo, which places it in direct communication with Alexandria and the Mediterranean. Benisueff is a pretty, well built, important town, being the entrepôt for all the produce of the fertile valley of Fayoum. It has a cotton-mill, and several other manufactures, and is well supplied with provisions of all sorts. Quarries of alabaster have been discovered in its vicinity. (Scott's Egypt and Candia, p. 265.)

BENNECKENSTEIN, or BENKENSTEIN, a town of Prussia, prov. Saxony, reg. Erfurth, on the Rapbode, at the foot of the Harz, in an *enclave* situated in the duchy of Brunswick, 13 m. NNW. Nordhausen. Pop. 4,223 in 1861. The town has an iron-foundry, a nail-work, a brewery, and a manufacture of baskets.

BEN NEVIS, a mountain of Scotland, in Dumbarshire, the second, in point of altitude, of the British mountains. It lies immediately to the E. of Fort William, being separated from the Gram-pians by the desolate tract called the Moor of Rannoch. It rises 4,370 ft. above the level of the sea; being only 20 ft. lower than Ben Macdhu, the highest mountain in Scotland, while it is 799 ft. higher than Snowdon, the most elevated of the Welsh mountains. Its circumference at the base exceeds 24 m. Its outline all round is well defined. Its N. front consists of two grand ascents or terraces: the level top of the lowest of which, at an elevation of about 1,700 ft., contains a wild tarn or mountain lake. The outer acclivities of this, the lower part of the mountain, are very steep, though covered with a short grassy sward, intermixed with heath; but at the lake, this general vegetable clothing ceases. The surface of the upper and higher part of the mountain, where

not absolutely precipitous, is strewed with angular fragments of stone, of various sizes, wedged together, and forming a singularly rugged covering, among which we look in vain for any symptom of vegetable life. On the NE. side, a broad, terrific, and tremendous precipice, commencing at the summit, reaches down to a depth of not less than 1,500 ft. The furrows and chasms in the black beetling rocks of this precipice are constantly filled with snow, and the brow of the mountain is also encircled with an icy diadem. From the summit, the view is remarkably grand and sublime: it commands most of the W. islands, from the Pass of Jura to Cuchullin, in Skye; and on the E., the view extends to Schiehallion, Cairngorm and Ben Macdhu. (Anderson's Highlands, p. 266.)

Ben being a term used in the Gaelic to signify a high summit, is applied to several of the Scotch mountains, as Ben Lomond, on the E. side of Loch Lomond, 3,195 ft. above the level of the sea, and the best known of all the Highland mountains; Ben Macdhu, on the confines of Banff, Inverness, and Aberdeen, 4,390 ft. above the sea, being, as already stated, 20 ft. higher than Ben Nevis; Ben Sawyers, Ben Gloe, Ben Wyvis, &c. (See SCOTLAND.)

BENOIT (ST.), a town of the Isle de Bourbon, on the E. coast of the island, at the mouth of the Marsouins. Estim. pop. 4,000. The products of the district are shipped in small vessels at the creek, or bay, for St. Denis, the cap. of the island.

BENSHEIM, a town of the grand duchy of Hesse Darmstadt, 15 m. S. Darmstadt. Pop. 4,477 in 1861. The town has a church, a college, and an hospital.

BERAK, an old province of the Deccan, India, comprising Nagpoor, and a considerable portion of Gundwanah; between lat. $17^{\circ} 48'$ and $22^{\circ} 43' N.$, long. $78^{\circ} 20'$ to $80^{\circ} 48' E.$: greatest length, N. to S., 830 m.; breadth 800 m.; area 56,728 sq. m. (Capt. Sutherland.) Pop. about 2,500,000. In the N. its boundary is a high table-land; its SW. limit is for the most part identical with the course of the Wurda. The other chief rivers are the Pain-Gunga, its tributary the Khahan, and the Mahanuddy. The land is fertile in dry grains; peas, vetches, flax, sugar, betel, and tobacco, are also raised; and, since the outbreak of the American civil war, it has become a great field for cotton. The Nagpoor wheat is reckoned the most nutritious in India; it comes to perfection in three months, and with maize, which is sown after it as a second crop, forms the chief subsistence of the inhab. A large proportion of the land has been brought into cultivation since the British have had the government of this country; the capital of the cultivators generally has increased, and irrigation and the state of the wells are better attended to. Sugar, betel, and tobacco are largely manured, but not with cow dung, which is used by the Hindoos for the floors of houses, and for fuel, though plenty of wood suitable for the latter purpose is scattered over the country. Indigo grows wild, but is not cultivated to any extent, and opium very little. A great portion of the country belongs to zemindars, who pay nothing but a quit-rent to government, and are in other respects independent of any superior authority; but these are less numerous in the central districts.

The revenue is collected under the village settlement; the chief farmer of the village being the *potail*, responsible for the payment of the ryots under him; receiving their rents; advancing them money when necessary, and receiving for his own remuneration one-sixth part of the whole sum collected. Cows, or agreements between the

government and the potali, or between the potali and the ryot, that only so much shall be collected from the land in a certain term (generally five or seven years), are very common, and were introduced by the Mahrattas when they conquered this territory, in order to promote cultivation, which at that time had been greatly neglected. The system is said to be advantageous; and if the assessment were moderate, and the term of agreement extended, and the conditions abided by, it perhaps would be as good a system as the principle on which it is bottomed will admit of.

The office of potali is usually considered hereditary, but is dependent on the pleasure of the government. The revenue is about 46 or 47 lacs, and the civil expenditure seven or eight lacs rupees a year. The ascending ranks of judicial authorities are the potali, the native pergunnah collector, the soubahdar of the district, and the rajah himself, who holds all the soubahdar jurisdiction round the capital. The *punchayet*, a body of five judges, two of whom are chosen by each of the contending parties, and the fifth by the potali, decides most civil suits, and its decision is final. This system is said to work well, except near Nagpoor, where corruption is common. It is always, however, resorted to; for, when the rajah decides, he exacts $\frac{1}{4}$ of the sum in dispute as a fine from the loser, and another $\frac{1}{4}$ as a compensation for the decision from the winner. There are no statute laws: succession to property is commonly determined by the Hindoo code, and there are a few men of learning in the cap. versed in this; but where one of these is not called in, most matters are determined by the *punchayet*. Education is not much countenanced; it is mostly confined to the children of the Brahmins, and mercantile classes, and amongst these extends little beyond reading, writing, and accounts. All other classes are very illiterate, and it is rare that a cultivator can write his own name. Previous to the introduction of railroads, there was little commercial intercourse; the public roads were few; there were no canals; and communication was very trifling generally. The opening of the railway from Nagpoor to Bombay, along the valley of the Taptee, gave an enormous impulse to trade, particularly as furnishing the necessary means of conveyance to the sea of the produce of the cotton districts.

After the fall of the Mogul empire, the Mahrattas overran this country, and under the second Mahratta rajah, Jenjee, who lived about the middle of last century, it is said to have been in a more flourishing condition than at any other period. The rajah of Nagpoor, however, at the beginning of the present century, having become hostile to the British, was deprived of the prov. of Cuttack, which had previously belonged to him, and some territories adjoining Hyderabad, which were given to the nizam. In 1817 the rajah was again in arms against the English, who then took upon themselves the administration of his territory. This continued for 8 $\frac{1}{2}$ years, during which time much improvement, to the general satisfaction of the people, was effected. The annual revenue had risen from 37 to 47 lacs of rupees, when the central parts were delivered up to the young rajah Bajee Rao Booslah, on his majority in 1826, at which time he ceded to us a territory on both banks of the Nerbudda, and parts of Gundwanah, together with an annual tribute of 8 lacs; the whole of our acquisition by this treaty being estimated at 80 lacs rup. a year. In 1829 the rajah was put in possession of the rest of his prov., with an agreement that instead of a force of 3,000 horse and 2,000 foot, he should, for the future, maintain a

standing army of 1,000 horse only. This agreement remained in force till the year 1853, when, on the death of the rajah (Dec. 11), his territories were added to the British possessions in India. (Hamilton's E. I. Gaz., i. 217-221; Reports on the Affairs of the E. I. Comp., Evid. of Mr. Jenkins, pp. 140-150; Appendix, vi. 163.)

BERAT, a town of Turkey in Europe, in the N. part of Albania, on the Tuberathi (an *Aspas*), 28 m. NE. Aulona; lat. 40° 48' N., long. 19° 52' E. It consists of an acropolis or citadel, on the summit of a pretty high hill, and of a lower town. The former, which was repaired and strengthened by Ali Pacha, is very extensive, and contains within it the palace of the vizier, several Greek churches, and about 250 houses. Being commanded by the neighbouring heights, and without either springs or cisterns (Pouqueville), it could oppose no effectual resistance to an invading army properly supplied with artillery, or strong enough effectually to blockade it. The lower town, at the foot of the acropolis, is intersected by the river, over which there is a good bridge of eight arches. It has numerous mosques, and a large and handsome bazaar. Merchants import British and other foreign goods through the port of Aulona. Scanderbeg failed in an attempt to take this town, which has always been regarded as an important post, and the key, in fact, of this part of the country. (Pouqueville, *Voyage de la Grèce*, i. 301, ed. 1820: Hughes' Albania, ii. 385.)

BERAUN, a walled town of Bohemia, cap. circ. same name, on the Beraun, 20 m. WSW. Prague, on the railway from Prague to Pilsen. Pop. 4,010 in 1857. It has fabrics of earthenware and firearms; and in its neighbourhood are quarries of marble and coal mines. In the vicinity of this town, the Austrians, in 1756, gained a signal victory over the Prussians.

BERBERA, a sea-port town of Africa, in the country of the Somaalis, on the Sea of Bab-el-Mandeb, at the bottom of a narrow and deep bay; lat. 10° 24' N., long. 45° 8' E. It is rather an encampment than a town, the inhab. dwelling mostly in tents or huts constructed of a few sticks, and covered with skins. It has few permanent residents; but from September to April, during which period a great annual fair is held, there is a large concourse of visitors, sometimes to the amount of 7,000 or 10,000. The Somaalis bring with them, from the interior, ghee or butter, coffee, sheep, various descriptions of gums, myrrh, ostrich feathers, gold dust, hides, and slaves of both sexes, which they exchange for iron, lead, cotton, cloth, rice, and dhourrah, brought from the Arabian ports of Mocha, Hodeida, and Makullah. The trade is almost wholly in the hands of Banian merchants, who are said to realise large profits. (Wellsted's Arabia, ii. 860, &c.)

BERBICE. See GUIANA.

BERDA, a small river in South Russia, gov. Taurida, falling into the sea of Azof. It is not navigable, and very often, during the summer months, partially dry. On the eastern banks of this river stands the little town of Petrofsky, the principal station of the Azof Cossacks.

BERDIANSK, a rising maritime town of South Russia, gov. Taurida, at the mouth of the river Berda, on the N. shore of sea of Azof, 150 m. NE. Simferopol. Pop. 6,498 in 1849, and 11,851 in 1864. The town is built upon a low sandy plain of one mile wide and several miles in length, immediately underneath an acclivity which rises abruptly to the steppe, 60 ft. high. It is a stereotyped edition of all Russian towns—the streets running at right angles to one another. The houses, 1,424 in number, are generally of one story

high, and principally built of bricks; some are constructed with a soft sort of stone brought from Kertch, where it is found in immense quantities. This kind of stone, owing to its non-endurability, is very unsuitable for building purposes; nevertheless, on account of the great facility in working it into different shapes, which Russian masons do easily with their axes, it has been largely employed in the south part of Russia. The walls of the houses are very thickly built, to enable them to resist the severe cold. Besides the foregoing number of houses, there are 189 grain magazines, which are capable of holding about 50,000 quarters. The quantity of wheat exported from this port in the year 1863 amounted to 137,355 quarters. The exports were largest in 1861, when they rose to 351,957 quarters. (Report of Consul Wagstaff on the trade of Berdianak, dated July 14, 1864.)

BERDITCHEF, a town of Russia in Europe, gov. Volhynia, on its SE. confines, 25 m. S. Jitomir. It is dirty and ill built, and is principally inhabited by Jews. It is, however, the centre of a considerable trade. Its fair, called *Onoufrief friefakata*, is much frequented.

BEREZINA, a river of Russia in Europe: it rises in the district of Disma, gov. Minsk, which it traverses from N. to S.: after receiving various affluents, and being joined by a canal with the Dun, it falls into the Dnieper a little below Ritchitza. This river has become celebrated from the difficulties and disasters attending the passage over it of the army under Napoleon, when retreating from Moscow in 1812. The above river must not be confounded with another and smaller river of the same name, which also rises in the gov. Minsk, and which, having divided, during a part of its course, the govts. of Grodno and Wilna, falls into the Niemen, at Nikolaeff.

BERGAMO, a town of Northern Italy, cap. prov. and distr. same name, on low hills between the Serio and the Brembo, 29 m. NE. Milan, on the railway from Milan to Venice. Pop. 35,200 in 1862. The town is surrounded by walls, and has an old castle; but these are useless as means of defence. It is well built; has a massive cathedral, 14 churches, 12 monasteries, 10 nunneries, a large hospital, a *mont-de-piété*, an orphan asylum, and other charitable institutions, a lyceum, and a *seminario*; the Carrarese school, founded by Count Carrara, where gratuitous instruction is given in music, painting, and architecture; a public library, with 60,000 vols., and two theatres. There are extensive establishments for the spinning and weaving of silk, great quantities of which are produced in the vicinity, with woollen and cotton fabrics, and iron-foundries. The trade of the town has much increased since the opening of the railway to Milan; it is now a chief station on the line from Milan to Venice. A great fair is annually held on the 22nd of August, and fourteen following days, in a large quadrangular building, called the *fierra*, containing 540 booths or shops. All the products of Lombardy are exposed to sale at this fair; but silk is the staple article, and next to it iron and wine. It has also a considerable trade in grindstones, quarried in the neighbourhood. The value of the goods disposed of at the fair is said sometimes to amount to 1,200,000*l*. It has also other, but less considerable, fairs, and cattle-markets. It is the seat of a bishopric, of the provincial assembly, and of a judicial tribunal.

Bergamo is very ancient, having existed under the Romans. In 1428, the inhab. placed themselves under the protection of the republic of Venice, of which it continued to form an integral part till the submersion of the latter in 1796, with

the exception of about seven years after the battle of Agnadello, in 1509, when it was taken by Louis XII. During the French ascendancy, it was the cap. of the dep. of Serio. The town fell to Austria in 1815; but, in consequence of the events of 1860, was incorporated with the new kingdom of Italy.

Bergamo has given birth to some very eminent men, among others, to Bernardo Tasso, the father of Torquato (a colossal statue has been erected in the *Piazza Grande*, in honour of the latter); Tiraboschi, the author of the learned, elaborate, and valuable work on the history of Italian literature (*Storia della Letteratura Italiana*); and to the Abbé Serassi, author of the *Life of Tasso*. The Bergamesque dialect is peculiar, and one of the most corrupted forms of the language spoken in Italy.

BERGEDORF, a town of the distr. or ter. of Hamburg, at the confluence of the Rille with a canal that joins the Elbe, 9 m. SE. Hamburg. Pop. 2,251 in 1861. It is connected by railway with Hamburg.

BERGEN, a town and sea-port of Norway, cap. of the diocese of S. Bergenshuus, at the bottom of a deep bay, 165 m. WNW. Christiania; lat. 60° 24' N., long. 5° 20' E. Pop. 26,540 in 1860. The town is built on a promontory, and surrounded on every side by water, except NE., where it is enclosed by mountains considerably above 2,000 ft. in height; and is protected, besides, by lofty walls, and several forts, mounting in all about 100 guns. The harbour is safe and commodious, and the water deep; but the bay all round is so beset with rocks as to render its navigation dangerous without a pilot. Bergen is generally well built, though some of its streets be narrow and crooked; viewed from the sea, it appears remarkably picturesque, being built amphitheatrically round the harbour. It contains a cathedral and four other churches, three hospitals, a prison, a house of correction, six establishments for the poor, a national museum, five public libraries, a naval academy, a superior college, established by Bishop Pontoppidan in 1750, and various schools. It is the seat of a tribunal of secondary jurisdiction, the residence of the high sheriff and bishop of the diocese. One of the three public treasuries of the kingdom, and a division of the National Bank, are established at Bergen. It has a governor, and a garrison of 300 men; and a squadron of the navy is stationed here. There are manufactories of tobacco and porcelain, many distilleries, and some rope-yards.

The fishery is the principal business carried on here; but both the internal and foreign trade are considerable. The imports from the N. provinces consist of codfish, roes, fish-oil, tallow, skins, and feathers, which are brought by a fleet of above 100 small vessels, twice a year during the summer; and which take back in return the other necessities and some of the luxuries of life. The articles brought from the other parts of Norway are less important: they consist chiefly of iron manufactures, glass, tiles, millstones, and fir timber; but the planks and deals of Bergen are not equal in quality to those of Christiania. The foreign trade is chiefly with the Baltic, Denmark, Sweden, Holland, Hamburg, England, France, and the Mediterranean. The imports from Hamburg far exceed the exports thence from Bergen, and consist of fabrics and colonial goods of every description. England supplies her manufactures and colonial products; but the trade with this country has much decreased. France sends thither salt, wine, and brandy; and receives most of the salted fish roes. The dried cod, or stockfish, a staple commodity of the place, is sent to most

Catholic countries. The shipping of the port of Bergen is considerable. There entered, in the year 1861, according to official returns, 344 Norwegian vessels, of 18,667 tons, and 428 foreign vessels, of 14,487 tons, all with cargo. Besides these, there came 10 Norwegian and 38 foreign vessels in ballast, giving a total of 865 vessels, of an aggregate burden of 36,554 tons. The clearances, during the same year, consisted of 841 vessels, of 84,518 tons; a rather large percentage of them in ballast, namely, 64 Norwegian vessels, of 8,144 tons, and 47 foreign vessels, of 3,545 tons. The merchant navy belonging to Bergen consisted, at the end of 1861, of 692 vessels, of a burden of 16,580 tons, manned by a crew of 3,102 men. During the year 1861, there were 41 vessels, of 1,001 tons, newly built.

The inhab. of Bergen are industrious, and several of the mercantile houses are believed to be wealthy. The modern town was founded by one of the kings of Norway in the 11th century. In the 13th, traders from the Hanse towns began to settle; and, in the succeeding centuries, acquired an almost sovereign supremacy in Bergen, until checked by an act of the Danish government in 1560. The principal part of the trade is now in the hands of natives. (Board of Trade Papers, and Report by Mr. Hamilton, British Secretary of Legation, dated Stockholm, Aug. 31, 1863.)

BERGEN, a town of Prussia, cap. island of Rugen, 15 m. NE. Stralsund. Pop. 3,656 in 1861. It stands almost in the centre of the island; has a court of justice, a castle, and a convent of noble ladies.

BERGEN-OP-ZOOM, a strongly fortified town of the king. of Holland, prov. Brabant, 23 m. WSW. Breda, near the left bank of the E. Scheldt, with which it communicates by a canal, and on the railway from Antwerp to Rotterdam. Pop. 8,890 in 1861. Besides its fortifications, which are exceedingly strong, it is surrounded by marshes that render the access to it very difficult. It has a grammar-school, and a school of design and architecture, with numerous fabrics of earthenware. Its anchovies, taken in the river, are in considerable demand.

This was one of the first towns occupied by the States General. In 1622 it stood a memorable siege by the Spaniards, who were compelled to retire, after losing 10,000 men. In 1747 it was taken by the French by stratagem. In 1814 it was nearly taken by the British by a *coup de main*; but they were finally repulsed with considerable loss.

BERGERAC, a town of France, dép. Dordogne, cap. arrond., in an extensive and fertile plain, on the Dordogne, 27 m. SSW. Périgueux. Pop. 12,116 in 1861. The town is neat, well laid out, generally well built, and thriving. It has a magnificent bridge of five arches over the Dordogne, a theatre, and some fine promenades. The fortifications by which it was once surrounded were demolished by order of Louis XIII., in 1621. It has a court of original jurisdiction, a college, and a secondary ecclesiastical school. Excellent paper is made here; and there are manufactures of different sorts of iron and copper goods, serges, hosiery, hats, and earthenware; with tanneries, distilleries, and iron-foundries. It maintains an intercourse with Bordeaux and Libourne, and is the principal entrepôt for the trade of the dep. A branch line of railway places the town in communication with the Paris-Bordeaux railway. Bergerac suffered much from the religious wars, and still more from the revocation of the edict of Nantes.

BERGUES, a town of France, dép. du Nord,

cap. cant., at the foot of a hill, on the Colme, 5 m. SSE. Dunkirk. Pop. 6,022 in 1861. The town is strongly fortified by Vauban, and has the means of laying the adjoining plain under water. Though old, it is pretty well built. In one of its squares are two high towers, the remains of two ancient churches destroyed during the revolution. It has a communal college, a hospital, and a small public library. It has distilleries, refineries of salt and sugar, with potteries, and fabrics of soap and tobacco. A canal, 8,701 metres long, connects Bergues with the port of Dunkirk, and it has likewise a station on the railway from Dunkirk to Paris. Owing to its favourable situation, it is the entrepôt of the corn, cheese, and lace, produced in the adjoining country.

BERKELEY, a bor. and par. of England, co. Gloucester, hund. Berkeley. Area of par. 14,680 acres. The pop. of the parish was 3,899 in 1831, and 4,316 in 1861; the pop. of the borough, or the 'Old Borough,' as it is termed in the census returns, was 1,011 in 1861. The town is situated amidst rich pasture lands, in the vale of Berkeley, on the Avon (which joins the Severn $1\frac{1}{2}$ m. below), 101 m. W. by N. London. It consists mostly of four streets, diverging from the market-place; houses but indifferent. The church is a large handsome building, in the pointed style, with a modern tower at some distance from it. There is also a chapel of ease at Stone; four dissenting chapels in the town, and two in the tithing. There is a free grammar-school, endowed with about 40*l.* a year, in which 26 boys are educated. The town-hall (a handsome structure built in 1825) is now used as a chapel by the Independents; the market house is beneath it. The market is held on Tuesday, and two annual fairs on May 14 and Dec. 1: there are also cattle markets on the first Tuesday in Sept. and in Nov. The Gloucester and Berkeley Canal (navigable for vessels of 600 tons) has its entrance $2\frac{1}{2}$ m. from Berkeley, but the place can only be considered as a large agricultural village. The corporation exists by prescription only; there are no charters, nor has it now any duties to perform.

Berkeley Castle, on an eminence SE. of the town, is amongst the most perfect specimens of its kind remaining in the kingdom, being in complete repair, and occupied: it is an irregular pile, with a keep and many castellated buildings, enclosing a spacious court. There is a fine baronial hall, a chapel, and a dungeon chamber 28 ft. deep. The other apartments are numerous and gloomy: in one of these Edward II. is supposed to have been murdered, in 1327: this castle is nearly surrounded by a fine terrace. The date of its foundation is uncertain, but it was granted, in 1150, by Henry II. to Robert Fitzharding; and in the last civil war it was garrisoned for the king, and for a time awed the surrounding district; it was subsequently surrendered to the parliamentary army, after a nine days' siege.

BERKHAMSTEAD (GREAT), a par. and town of England, co. Hertford, hund. Dacorum, 26 m. NW. London. Area of par. 4,250 acres. Pop. of par. 2,369 in 1831, and 3,585 in 1861. The town is in a deep vale, on the SW. side of the Bulbourn and the Grand Junction Canal, which here run in a line together, parallel with the high road, which passes through the town. The London and North Western railway also has a station here. The principal street is about half a mile in length; a smaller street branches from the church in the middle of the town, towards the old castle. Houses, irregular brick buildings, but many of them very respectable. The church is a Gothic cruciform structure, with a tower, and several small chantries, and curious monuments. There is a free

school, established in the reign of Henry VIII.; ann. amount of its revenue, 634*l.*; but it has long been unavailable to the town. All Souls College has the patronage. Another school, founded in 1727, has an ann. revenue of 279*l.*: in it 20 boys and 10 girls are clothed and educated. The castle, on an eminence E. of the town, enclosed a space of 11 acres, and was very strong. It originated in the Saxon period; was strengthened in the reign of Wm. I., and rebuilt in that of Henry II., who at one time held his court in it, and conferred many privileges on the town. Cowper, the poet, was born here, his father being rector of the parish.

BERKS, or BERKSHIRE, an inland co. of England, having N. Oxford and Bucks, from which it is separated by the Thames, E. Surrey, S. Hampshire, and W. Wiltshire, and a part of Gloucestershire. It is very irregularly shaped, and contains 451,210 statute acres, about two-thirds of which are under tillage. Nearly 25,000 acres, including part of Bagshot Heath, are waste lands. Berks is a very beautiful co.; has every variety of soil and surface, and is well stocked with timber, particularly oak and beech. Exclusive of the Thames, it is watered by the Kennet, Loddon, Ock, and other rivers. It is about equally divided between tillage and stock and dairy husbandry. The Berkshire breed of pigs is much celebrated. Agriculture is in a rather backward state; four or five horses are generally yoked to the plough; and, from the want of proper covenants in leases, land is often left in a bad and exhausted state at their termination. Property much divided; a third part of the co. is supposed to be occupied by small proprietors. Farms of all sizes, under 1,200 or 1,400 acres; but few above 500 acres, or under 50*l.* a year. Average rent of land 30*s.* an acre. Windsor Castle, the ancient and magnificent residence of the English sovereigns, is in this co. This was formerly one of the principal seats of the woollen manufacture; but it has entirely disappeared, and the manufactures now carried on are but of trifling importance. Principal towns, Reading, Windsor, and Abingdon. Berkshire is divided into 20 hundreds and 151 parishes. The census of 1861 stated the pop. at 176,256, of whom 86,875 males, and 89,381 females. The number of families, at the same period, was 40,655, and the number of inhabited houses 35,761. The county returns three members to the House of Commons. The constituency consisted, in 1864, of 4,847 registered electors.

BERLEBURG, a town of the Prussian States, prov. Westphalia, cap. circ. Wittgenstein, 27 m. SSE. Arnberg. Pop. 2,060 in 1861. The town is the residence of the Prince of Wittgenstein. It has a castle, a haras, and some forges.

BERLICHINGEN, a village of Wirtemberg, on the Jaxt, 9 m. WNW. Kunzelsau. Pop. 1,407 in 1861. It has a castle, a Catholic church, and a synagogue.

BERLIN, the capital of the Prussian States, and the ordinary residence of the monarch, on the Spree, 127 ft. above the level of the sea, in the middle mark of Brandenburg, and on the line of railway from Paris to St. Petersburg. Streets broad and straight, some of them ornamented with rows of trees; squares regular and spacious; houses all of brick, and mostly stuccoed over; public buildings and monuments numerous and magnificent; so that, notwithstanding its sameness, the want of bustle and liveliness, and the poverty of its environs, Berlin is one of the finest cities of Europe. It was founded about the middle of the 12th century. In 1688 the population was about 18,000; in 1700 it was 29,000; in 1775 it had increased to 135,500; in 1816 it was 182,387; in 1838 it

amounted to 290,797; in 1846 to 408,502; and in 1861 to 547,571. The latter figure is exclusive of the military pop., numbering 22,626 in 1861. The pop. was calculated, from the returns of births and deaths, to amount to 552,020 on the 1st of January, 1864. The town is surrounded by a wall, nearly circular, 7 Engl. m. long, opened by 17 large and 2 small gates—the largest of them being the celebrated Brandenburg gate, surmounted by a gigantic car of victory. The wall and ramparts serve only for purposes of police and revenue, and are useless as means of defence.

Berlin owes much to the taste and munificence of its sovereigns. The quarter called the new town (Neustadt) was built by the great elector, Frederick William (1640–1688), who also planned the *Unter den Linden* street, and otherwise greatly enlarged and beautified the city. The succeeding monarchs, especially Frederick I., Frederick the Great, and Frederick William III., added many new streets, squares, and suburbs, and embellished the city with many splendid buildings and monuments. Among the principal of these is the royal palace, imposing by its magnitude, having about 600 saloons and chambers. It is sumptuously furnished; one of the saloons (the White Hall), was fitted up at a cost of 120,000*l.* The museum, begun in 1823 and finished in 1830, is one of the finest buildings in the city. It is in the form of a parallelogram, 280 ft. in length, by 182 ft. in width. It has some noble apartments, and very extensive collections of pictures, vases, statues, coins, and other works of art. Opposite the grand entrance is an immense granite vase, or basin, 22 ft. in diameter. It was formed out of a huge boulder, or isolated block, found about 80 m. from the city, to which it was conveyed by the Spree. The opera-house, burnt down in 1843, has since been rebuilt; and there are several other fine theatres. The Royal Library is a large heavy-looking building. The collection of books comprises about 500,000 printed and 5,000 MS. vols., many of the former, including Luther's Hebrew Bible, being both scarce and valuable. This library is entitled to a copy of every work published in the Prussian states. The arsenal, one of the greatest in Europe, forms a square, each side of which is 268 ft. in length. It was formerly reckoned the finest building in the city, and contained, previously to the revolutionary disturbances, in 1848, a very large stock of all sorts of warlike implements. It was then, however, taken possession of by the mob, who carried off large quantities of the fire-arms and military stores with which it was furnished. Among the other public buildings may be specified the Royal Academy; the 'Königswache,' built after the model of a Roman castrum; the university; the old palace, formerly belonging to the Knights of St. John; and the palace of Monbijou, occupied by Peter the Great when he visited the city. The Brandenburg gate, already mentioned, one of the most colossal structures of the kind in Europe, was erected in 1790, after the Propylæum at Athens, but on a much larger scale. It is surmounted by a statue of Victory, in a chariot drawn by four horses. It was carried away by the French in 1807, and brought back in triumph in 1814. The monument to the brave men who fell in the campaigns of 1813, 1814, 1815, is immediately outside the Halle gate. Opposite the guard-house are the statues of Scharnhorst, Bülow, and Marshal Blücher. A monument erected in honour of Frederick the Great, consisting of an equestrian statue in bronze, by Rauch, stands at a conspicuous place, at the *Unter den Linden* street, opposite to the University. It is one of the grandest monuments of its kind in Europe. The

horse, 16 ft. high, stands on a pedestal, and at each of its corners is an equestrian statue of one of Frederick's generals. The churches, which are very numerous, are generally inferior; the principal are the cathedral; St. Mary's, with a steeple 292 ft. in height; the church of St. Nicholas, consecrated in 1223; the church of the garrison; and the church of St. Hedwige. The Spree, which intersects the city, and insulates one of its quarters, is crossed by about 40 bridges, principally of stone, but partly also of iron. Some of them are handsome structures. The 'Long Bridge,' of stone, has a fine equestrian statue of the 'Great Elector.' The *Unter den Linden* street is the finest in Berlin, and one of the finest in Europe. It is $\frac{3}{4}$ m. in length, from the Brandenburg gate to the royal palace; the five avenues in the centre being composed of chestnuts, linden, aspen, acacia, and plantain, whose varied foliage contrasts beautifully with the numerous elegant palaces and public buildings that line each side of the street. It is the corso of Berlin; for here the fashionable and the wealthy exhibit themselves and their equipages. Here are several palaces; the seminaries of the artillery and engineers, the Academy of the Fine Arts, the opera-house, the arsenal, and the king's palace. Another splendid thoroughfare, Frederick Street, is about 2 m. in length. The Schloss Platz, or square of the palace, the Gensd'armes-market, Wilhelm Platz, the most fashionable square in the city; the square of *La Belle Alliance*, and a number of other public places, are well built, and most of them highly ornamented. But few of them are planted inside, and consequently, notwithstanding the fineness of the buildings, have not half the effect they would have were they properly laid out.

Besides its military and judicial establishments, Berlin has to boast of many celebrated literary institutions. The university, established in 1809, enjoys a high degree of reputation, especially its medical school. It has many distinguished professors and teachers; and is attended, on the average, by about 2,000 students. The library has above 600,000 vols. There are also seven royal gymnasia or high schools, with many inferior academies and public schools, amounting to 56 altogether. The military seminary has above 300 pupils. The hospitals and other charitable institutions are numerous and well conducted. The orphan asylum supports about 400 children in the house, exclusive of about 700 boarded out of doors.

Berlin may be regarded as the political and literary metropolis of N. Germany; and is distinguished alike for the number and celebrity of her statesmen, philosophers, scholars, and artists. Her press is very active and annually gives birth to a great many books, scientific and literary journals, newspapers, and magazines. About 3,000 persons are engaged in literature, and the various trades connected therewith, such as printers, paper-makers, and bookbinders.

Berlin is one of the principal manufacturing cities of Germany. Among other branches are included the manufacture of steam engines, woollens, silk stuffs and ribands, cottons, porcelain, cast-iron goods, paper, coaches and light carriages, jewellery, watches and clocks, hats, snuff, and tobacco, refined sugar and spirits. The great steam-engine factory of Messrs. Borsig, one of the largest on the continent, furnishes locomotives for nearly all the German railways. The cast-iron goods, manufactured at the foundry outside the Oranienburg gate, comprise all sorts of articles, from colossal pillars and statues, down to the minute furniture of a lady's toilet. In

delicacy of impression they are unequalled by those made in any other country. The casts in relief of some of the finest pictures are particularly admired. The porcelain is of the first quality. Part of it is the produce of a royal manufactory; but the best kind is manufactured at a private establishment in the suburb of Moabit. There are numerous cotton-spinning establishments in the city.

All the great roads of the kingdom centre in Berlin. There are five great lines of railway, with their chief stations. The first runs northward, towards Stettin and the Baltic; the second goes, by way of Frankfort-on-the-Oder, to Königsberg, Wilna, and St. Petersburg, with branches to Warsaw and Cracow; the third runs direct south to Dresden, Prague, and Vienna, throwing off arms towards Bavaria, Würtemberg, and other German states; the fourth line stretches westward towards Magdeburg and Cologne, connecting itself with the Belgian and French railway system; and, finally, the fifth line runs in a north-westerly direction towards Hamburg, with prolongation into Schleswig-Holstein. Besides this most extensive network of iron roads, Berlin has a large command of inland navigation, extending to the Elbe and Hamburg on the W., to Stettin and Swinemunde on the N., and to the Vistula on the E.

Owing to the flatness of the ground on which it is built, the drainage of the city was formerly very imperfect; and, instead of running off, the water in the streets, in wet weather, stopped and stagnated on the surface. But this defect has been remedied in recent times, by the establishment of a system of drainage. There are numerous hackney coaches and other street carriages, placed under judicious regulations. All the streets are lighted with gas.

There are numerous places of amusement in and near Berlin. The largest and most celebrated is Kroll's Garden, near the Brandenburg gate, capable of accommodating 5,000 persons. The theatres, dedicated to the drama and opera, are generally well attended. With the exception of Vienna, there is no city where music is more universally patronised, or where the opera is better performed or more heartily appreciated, than in Berlin. The *Conditoreien* are much frequented by the upper classes. They resemble our confectioners' shops; but are far more spacious, and fitted up with greater attention to comfort and elegance. Besides refreshments of all sorts, they are well supplied with domestic and foreign newspapers and literary and scientific journals. Tea and coffee constitute the favourite beverage of the higher classes; and the latter is popular with all ranks. Chicory and roasted acorns are not unfrequently used as substitutes for coffee among the poorest classes. The taverns of Berlin are much frequented by the middle classes. The favourite beverage is a thin kind of ale, containing but a very small percentage of alcohol, called 'weissbier,' or white beer. It is drunk out of tumblers of immense size, and being very watery, a great quantity of it may be consumed with impunity. The custom of smoking prevails among all classes; and the consumption of tobacco is immense.

Berlin is the seat of an extensive commerce, and the centre of the pecuniary transactions of the monarchy. The Royal Bank was founded in 1765, upon the model of that of Hamburg; and so it existed until 1846, when it was reorganised under a new charter, by which more extension was given to its operations. In accordance with this new constitution, the issue of notes has been raised since 1850, to 21,000,000 thalers,

the thaler being equal to 2a. 10 $\frac{1}{2}$ d. The capital of the bank is always to be, in proportion to the notes in circulation, 2-6ths in silver, 8-6ths in bills discounted, and the rest in loans on securities. The bank notes are from 25 to 50 thalers each. The share of the government in the bank amounts, at most, to 500,000 thalers. The shareholders are entitled to an annual interest of 3 $\frac{1}{2}$ per cent. upon the capital, and, after deduction of the sum set apart for the reserve or rest, which is not to exceed 30 per cent. of the capital, one moiety of the surplus profits is apportioned to them in addition, and the other goes to the treasury. The bank has branches in a great number of cities, as Breslau, Königsberg, Dantzic, Stettin, Magdeburg, Munster, Cologne, Memel, Posen, Stolpe, Elberfeld, Treves, Aix-la-Chapelle, Dusseldorf, Coblenz, Minden, Erfurt, Frankfurt-sur-Oder, Stralsund, Koetin, Liegnitz, and Oppeln, and thus forms a vast network of financial operations through all the kingdom. Here, also, is the seat of the association for maritime commerce, called the 'Seehandlung,' and of numerous insurance and other offices. The town revenues amounted, in the year 1862, to 2,882,140 thalers, but the expenditure was much greater, having reached the sum of 3,532,344 thalers. The deficit was made up by loans and increased local taxation. At the end of 1862, the public debt of the city amounted to nearly 6,000,000 thalers.

Outside the town, about $\frac{1}{2}$ m. from the Halle-gate, on a low sandhill, which, however, is almost the only eminence near Berlin, is the 'Nationaldenkmal,' People's Monument. It consists of a Gothic cross, 60 ft. high, erected to commemorate the expulsion of the French, and the recovery of the national independence. It is of cast-iron from the royal foundry, and was designed by Schinkel. The statues in the niches are the work of Rauch and Tieck. (Keller, Der Preussische Staat; Ritter, Geographisch-Statistisches Lexicon, 1864.)

BERMEO, a sea-port town of Spain, on its N. coast, prov. Biscay, on a rather shallow bay, 16 m. N.E. Bilbao. Pop. 8,918 in 1857. The inhab. are principally dependent on the fishery, which they carry on to a considerable extent. This town gave birth to the distinguished epic poet Don Alonso d'Ercilla, the author of the *Araucana*, who was born here in 1528.

BERMUDAS (THE), or SOMER'S ISLANDS, a group of small islands, about 800 in number, in the N. Atlantic Ocean, belonging to Great Britain, stretching N.E. by E. and S.W. by W. about 20 m., the lighthouse on Gibb's Hill being in lat. 32° 14' 54" N., long. 64° 52' W., about 850 m. S.E. by E. Cape Hatteras. They are estimated to contain about 80 sq. m. The census of 1861 gave the pop. at 11,451 against 10,982 in 1851. About two-fifths of the pop. of the islands are whites. When viewed from the sea, their elevation is trifling, the highest land scarce attaining to a height of 200 feet. Their general aspect is similar to the West Indian islands, except that they remind the voyager (from their proximity, and the sea flowing between them) of the lake scenery of European climates. They are almost everywhere surrounded by extensive coral reefs, the channels through which are extremely intricate, and can only be safely navigated by native pilots.

The principal islands are those of Bermuda, St. George, Ireland, and Somerset. The protection afforded to shipping by their numerous bays, their position in the track of the homeward-bound W. India ships, and in the most advantageous locality for refitting the ships of war employed in the W.

Indian and American seas, have led to the conversion of the Bermudas into a principal maritime station. The harbour of St. George's island, one of the most easterly of the group, has water enough to float, and space to accommodate, the whole British navy. Formerly, its entrance was so narrow and encumbered with reefs that it was rendered in a considerable degree useless; but by the expenditure of large sums and a certain amount of convict labour, the channel leading to St. George's harbour has been greatly improved; a dockyard, with a breakwater for its protection, have been constructed on the E. side of Ireland island; and some very strong fortifications have been erected on it and St. George's, for the security of the islands and of the shipping.

Bermuda, the principal island (or main land, as it is called), is about 16 m. in length, but it rarely exceeds 1 $\frac{1}{2}$ m. in width. In the centre of this island, and on the N. side of a beautiful bay, is the town of Hamilton, now the seat of government. The town of St. George's, on the island of that name, is, however, the largest on the group. Representative government was introduced in the Bermudas as early as 1620. In 1621 the Bermuda Company of London issued a sort of charter to the colony, the liberal nature of which, together with the favourable reports of climate and soil, attracted a considerable number of British emigrants. But the charter, nevertheless, met with opposition, and was annulled by the home government in 1685. Since then, the governors have been appointed by the crown, and laws for the colony enacted by a local legislature, in concert with the executive.

The legislature is composed of 10 members of council, named by the crown, and 36 of assembly: each parish, of which there are nine, returns four of the latter, who are elected every seven years, or whenever a new sovereign ascends the throne.

There are numerous churches and chapels. The Admiralty have established a school on Ireland island, and there are various private schools. The number of public schools, or 'free schools,' amounted to 18 in 1860, with 621 pupils, 357 male and 264 female.

The cultivation carried on in the islands is rather horticultural than agricultural. Most sorts of fruits and vegetables may be raised. The arrow-root grown here is said to be superior to that of any other place, and large quantities of it are exported. The oranges are also very fine; and sweet potatoes, onions, and other articles are exported. They derive their supplies of flour, rice, Indian corn, &c., from the U. States, and of manufactured goods from the U. K. The seas around the islands abound in fish, and the inhab. are expert fishermen. They possess about 100 sail of vessels, of from 100 to 150 tons burden. An inconsiderable whale-fishery employs a few boats and their crews three months in the year: the number of whales seldom exceeds 20 in the season, yielding about 1,000 barrels of oil. The islands abound in poultry of the best kind. Beef and mutton may generally be procured, but the only meat that is plentiful is veal. The climate almost realises the idea of a perpetual spring. The islands are celebrated alike for their salubrity, and for the beauty and richness of their vegetable products. The air, however, is extremely damp, especially during S.W. winds, which are the most common. During the winter season, which commences in November and terminates in April, the islands are subject to strong gales from the N.W., which often do great damage to the shipping in these seas. The total value of the imports in 1860, amounted to 152,888 $\frac{1}{2}$;

exports, 23,467*l*. Therevenue in 1860 was 15,616*l*., and the expenditure, 17,406*l*. The largest item in the expenditure, 4,285*l*., was for 'salaries to governor and principal officers.' The legislatures of these islands and Antigua were the only colonial legislative bodies that abolished slavery without the intervention of apprenticeship. The proportion of the 20,000,000*l*. voted by parliament for compensation, received by Bermuda, was 50,584*l*., being, for 4,203 slaves, 27*l*. 4*s*. 11*d*. each.

BERN (CANTON OF), the largest and the second in rank in the Swiss Confederation, in the central and W. part of Switzerland, between lat. 46° 19' and 47° 30' N., long. 6° 50' and 8° 28' E., having NW. France; N. and NE. the cant. of Basel, Soleure, and Aargau; E. Lucerne, Unterwalden, and Uri; S. the Valais; SW. Vaud; and W. Fribourg and Neuchâtel; length, NW. to SE., 82 m.; greatest breadth at its S. part 62 m.; area 2,562 sq. m. The pop., according to the census of 1860, was 468,516, or 178 to the sq. m., being somewhat above the average density of pop. in Switzerland, which is 157 inhabitants per sq. m. The sexes are nearly equally divided in the canton, there being only 302 more males than females. The great majority of the inhabitants, namely, 405,599, are Protestants. Most part of this cant. is mountainous, especially the S., which is intersected by the Bernese Alps, to which belong the Finsteraarhorn, Mönch, Jungfrau, Schreckhorn, &c., some of the highest summits in Switzerland: in the N. the ranges belong to the Jura, and are considerably lower. The region between these two mountain systems contains the valley of the Aar, the Emmenthal, and other fertile valleys, but in no part presents anything like an extensive plain. S. of the lakes of Thun and Brienz, begins what is called the Bernese Oberland, a mountainous region, including the four celebrated valleys of the Simmen, Lauterbrunnen, Grindelwald, and Hasli. The chief rivers are the Aar and its tributaries, Dirse and Doubs: the lakes those of Thun, Brienz, and Bienne; between the two former of these is the small but highly cultivated plain of Interlachen. The climate varies with the elevation, and is, besides, subject to sudden changes of temperature: even in the Interlachen, where it is the mildest after a warm day, very severe frosts often occur at night. Rains and fogs are frequent; but the canton, as a whole, is generally healthy. It is divided into 28 prefectures, under four principal divisions; viz., the Oberland, country of Bern, Emmenthal, and the old bishopric of Basel. Iron ore is found in great abundance in the Jura mountains; gold dust is met with in the sands of the Aar and the Emmen, and crystals in the Grimsel rocks; and there are many mineral springs, some used as baths, and much frequented. The soil is in great part stony and barren, and the arable land occupies but a small proportion of the whole surface, and, though well cultivated, the produce of corn is insufficient for the supply of the inhab., and large quantities are imported. There are in parts plantations of fruit-trees: white mulberry, chestnut, peach, and fig, and a few vines are raised on the shores of Lakes Thun and Bienne, but not to any considerable extent: in the Lauterbrunnen, wheat is treated as an exotic, cultivated in small beds, and trained on sticks. Cattle of a superior breed form the chief wealth of the canton, and breeding, grazing, and dairying are the principal branches of industry. The pastures in the Oberland and Emmenthal are excellent, and produce the finest cattle: the latter valley has also a strong and active breed of horses, exported to France for draught and heavy-armed cavalry. The cheese

made in this cant. is, next to that of Fribourg, the best in Switzerland; the average produce is estimated at 80,000 cwt. a year: a great deal is sent from the Emmenthal into Germany and Italy. The houses in the Oberland are generally of wood, but in the Jura, and round Bern, of stone: the Bernese are, for the most part, well lodged. The estate of a father is everywhere divided into equal shares among his children without respect to sex or seniority, except in the Emmenthal, where, by a peculiar law, landed property descends to the youngest son. Hence, in the greater part of the canton, land is very much subdivided, and the holders in poor, though not depressed circumstances. There are but very few estates that reach to 150 acres, unless they belong to village or town communities; but the possessions of the latter are frequently sufficiently large not only to defray the annual expenses of the community, including the relief of the poor, but sometimes to yield a surplus revenue, after all outgoings are deducted, which is divided amongst the citizens. Each commune is obliged to support its own poor, who do not become chargeable upon other communes, or upon the state; they generally receive out-door relief, but if subsequently prosperous, are bound to return what they have received. Manufactures and trade are of considerable importance; linen and woollen cloths are made in the Emmenthal: paper around Bern; watches, jewellery, and firearms are made in Bern and Porentrui; thread and printed calico, near Bienne; silk, especially for umbrellas, and leather, in the former bishopric of Basel. There is also an extensive manufactory of agricultural implements at Hofwyl. The exports consist chiefly of cattle, cheese, and butter; iron from the Jura, and a few manufactured goods: the imports are corn, salt, colonial produce, and articles of luxury. The revenue, in 1862, amounted to 4,764,478 francs, and the expenditure to 4,971,831 francs.

The government of the canton is entrusted to a grand and an executive council; the former consists of 140 members, chosen by the people in the primitive assemblies of the 27 prefectures, and is presided over by the landamann, who is the first magistrate of the cant. It meets once a month, if necessary, but determines on nothing without the co-operation of the executive council, which consists of 9 members, chosen from among the former for the term of four years. Members of the grand council must be 29 years old, and have landed property to the value, at least, of 5,000 fr., or 200*l*., excepting professors of the university, advocates, and physicians, of whom such qualification is not required. The salary of the landamann is 4,000 fr.; that of a member of the executive council 3,000 fr. a year; members of the grand council are allowed 2½ fr. a day during the time they are assembled. Every male from 16 to 50 years of age is liable to serve in the army. The contingent of troops furnished to the confederacy is 5,158 men. There is a judicial tribunal in each distr., and a court of appeal in Bern; the latter consisting of 14 memb., with a president. Savings' banks are general, and education well attended to. At the city of Bern there is a university, besides two upper schools, and a school of industry, and 'gymnasias,' or upper schools, are also at Biel, Thun, Neuenstadt, Pruntrut, and Delsberg. The university has faculties of theology, jurisprudence, medicine, and philosophy, each having three ordinary, and from two to five extraordinary professors; the salary of the former is from 2,400 to 3,000 francs, and of the latter from 1,200 to 1,400 do. There is also a veterinary school, and some

distinguished private educational establishments, especially that of M. Von Fellenberg, at Hofwyl. Education is universal; in 1860, there was not one inhabitant, native of the canton, unable to read and write. Except about 50,000 individuals of French extraction, in the ancient bishopric of Basel, the inhab. are of German stock; and German is the prevalent language. The German part of the pop. are generally much superior in their physical appearance to the French portion, especially those in the Oberland. The Bernese are brave, hospitable, public-spirited, and really good-natured, notwithstanding they are subject to fits of passion, which sometimes occasion the effusion of blood. Catholics are less industrious than the Protestants. This cant. entered the Swiss Confederation in 1353: at first its territory was very limited, but afterwards, by conquest and purchase, it acquired nearly the whole of the now existing cant. of Vaud and Aargau, which, in addition to its present extent, it held till 1798, when it was taken by the French. In 1815, in indemnification of Vaud and Aargau, the Congress of Vienna added to its dom. the town of Bienna with its territory, and the greater part of the ancient bishopric of Basel, otherwise entitled the bailliages of the Jura.

BERN, a town of Switzerland, cap. of the above cant., and, alternately with Zurich and Lucerne, of the Swiss Confederation, on the Aar, 52 m. S. Basel, and 60 m. SW. Zurich, on the railway from Zurich to Geneva. Population 29,016 in 1860. The town stands 1,708 ft. above the level of the sea, on a hill, which, except on the W., is surrounded on all sides by the Aar. A stone bridge 260 ft. long, is erected over the river, and three gates lead to the interior of the town. The fortifications, by which it was formerly surrounded, were demolished in 1835. Three principal streets extend in a parallel line from E. to W., and are intersected by a number of lateral streets. The houses are massive structures of freestone. Piazzas run along the houses on both sides the principal streets, which are also adorned with handsome fountains. Principal public edifices:—The cathedral, a fine Gothic structure, founded in 1421, and finished in 1502, 160 ft. long, and 80 ft. broad; the steeple, though unfinished, is 190 ft. high. It has some fine glass paintings, and various trophies and monuments. The church of the Holy Ghost, founded in 1722, is also a fine structure, as well as the mint, built in 1790: the general *burgerspital* (hospital of the citizens), built from 1730 to 1740; another magnificent hospital, called the *Insul* (island), founded in 1718, occupying one whole street, and affording a splendid prospect from the Aar; the state-house of the avoyer, previously to 1881 the residence of, and now partly occupied by, the French embassy; the house of correction, the largest building of the kind in Switzerland, and one of the best contrived in Europe, finished in 1833, at an expense of 1,200,000 fr.; the corn magazine, a large and massive edifice, having on the floor an extensive open hall, with forty-three pillars, in which the corn market is held twice a week. Bern has also an arsenal and a large town-hall, both old edifices. The charitable institutions are,—two large hospitals; two orphan houses, one for boys and another for girls; a fund for the support of poor students; a lunatic asylum, situated about 2 m. from Bern; and an asylum for old poor persons. The university and gymnasium, noticed in the preceding article, are situated in the town. There are also a Swiss economical and a Swiss historical society; with societies of natural history, medicine, and arts; a botanic garden; a public library, with valuable MSS. relating to Swiss history, and a

collection of Roman, Greek, Gothic, and Swiss medals, Roman antiquities and portraits of the Bernese avoyers, &c. There is also a museum of natural history, with bas-reliefs of the Bernese Oberland, of the cantons of Vaud and Valais, and of St. Gothard; and many private scientific collections well worth notice. The trade of the town is of some importance. Two fairs are annually held; one after Easter, and another in November. There are manufactories of silks, straw-hats, woollen cloth, and stockings, and also tanneries and breweries. About 2 m. from Bern there is a gunpowder mill, the powder made in it being formerly reckoned the best in Europe. The corporate property of the citizens is large, amounting to above 30,000,000 fr.; and the revenue, besides defraying the municipal expenditure, supplies every citizen, gratis, with fuel, and leaves, over and above all this, a surplus sum, which is annually distributed among the citizens. The inhab. are serious and reserved, and proud of the ancient glory of their city. The aristocracy, or the 'patricians,' as the old families are called, live secluded from the other classes. Bern is the birth-place of Haller; it has not, however, to boast of so many distinguished men as Zurich, Basel, and Geneva. The town has borne for its arms; and some of these animals are maintained in a place called *Bärengraben* (bear's ditch), on funds appropriated to that special purpose.

Bern was founded in 1191, by the Duke Berthold V. of Zähringen. Its history is the same as that of the canton. The environs are beautiful, affording the most splendid views of the Alps, on one hand, and the Jura on the other. There are many fine public walks; amongst which are the *platform*, a terrace near the cathedral, 180 ft. above the Aar; and the *Engi*, a magnificent walk, affording a fine prospect over the river, the city, and the lower mountains, to the high Alps. Hofwyl (which see) is about 4 m. from Bern. There are also several mineral baths in the vicinity, such as Blumenstein and Gurnigel.

Mr. Inglis speaks very favourably of the advantages of Bern as a place of residence. 'It is,' says he, 'greatly superior to Basel, Lucerne, or Geneva. It is a pleasant thing to walk in wide airy streets, and at the same time to have the advantage of shade, if required. Where there are arcades one may always choose between bustle and quiet—bustle under the arcades—quiet in the centre of the streets; and in the *agréments* of a city, Bern has decidedly the advantage of its rivals. It possesses all those public establishments which make a place agreeable as a residence. It has excellent libraries, excellent academies, delightful promenades, convenient and well ordered baths; a theatre; concerts and balls during winter; clever lecturers upon most of the sciences; eloquent and pious clergymen of almost every denomination; and to this list may be added abundance of shops, where all that contributes either to comfort or luxury may be found.' (History of Bern, by Stapfer, late Minister of the Helvetic Republic; Inglis's Switzerland.)

BERNARD (GREAT ST.), the name given to a famous pass of the Pennine Alps, leading over the mountains from Martigny to Aosta. In its highest part it attains to an elevation of above 8,000 ft., being almost impassable in winter, and very dangerous in spring, from the avalanches. Very near the summit of the pass, and on the edge of a small lake; is the famous hospice founded in 962, by St. Bernard, and occupied by brethren of the order of St. Augustine, whose especial duty it is to assist and relieve travellers crossing the mountain. In searching for travellers who have lost

their way, or been buried in the snow, they avail themselves of the assistance of a peculiar breed of dogs of extraordinary size and sagacity. The brethren have faithfully discharged the arduous duties imposed on them, and have rescued hundreds of travellers from a premature death. The hospice is a massive stone building; it possesses some, but not much, independent property, and is principally dependent on collections made in the Swiss cantons and other states, and on donations from the richer class of travellers. In 1800, when the road was not nearly so good as it has since been made, Napoleon led an army of 30,000 men, with its artillery and cavalry, into Italy by this pass. The railway at present extends to Martigny, at the foot of the Great St. Bernard, and, on the Italian side, to Biella, so that the mountain is easily crossed. The hospice contains a monument, erected by order of Napoleon, in honour of Desaix, who fell at the battle of Marengo. (Brockedon's *Passes of the Alps*.)

BERNAU, a town of Prussia, prov. Brandenburg, on the Panko, 15 m. NE. Berlin. Pop. 5,040 in 1861. It is in part fortified, and has fabrics of silk, velvet, calicoes, and linen, with numerous and celebrated breweries. In the church and town-house are tents, bows, arrows, &c., taken from the Hussites.

BERNAY, a town of France, dép. Eure, cap. arrond., on the Charentonne, 26 m. WNW. Evreux. Pop. 7,566 in 1861. This is a thriving town, and has latterly been a good deal improved. It has a court of primary jurisdiction, a commercial tribunal, a communal college, with manufactures of woollen goods, linens, cotton yarn, paper, wax, &c., and bleach-fields and tanneries. There is a station here, on the railway from Paris to Cherbourg, and a branch line runs from Bernay to Elboeuf and Rouen. The greatest of the French fairs for horses is held here on the Wednesday of the fifth week of Lent. It is said to be attended by from 40,000 to 50,000 jockeys, amateurs, and other individuals, some of them from great distances. There is an immense show of Normandy horses.

BERNBURG, a town of Germany, in the duchy of Anhalt, on the river Saale, by which it is intersected, 23 m. S. Magdeburg. Pop. 7,200 in 1861. The town consists of three parts, two on the left, and the other on a hill on the right bank of the river, which is here crossed by a bridge. The first two parts are surrounded by walls; the other, or the Mount town, has a castle on its summit, and is open. A branch line of railway connects the town with Cöthen, and the railway from Berlin to Leipzig. Bernburg is well built, well paved, and clean. It is the seat of the ducal government, and has several literary and charitable institutions, with some manufactures and trade.

BERNCASTEL, a town of the Prussian States, prov. Lower Rhine, on the Moselle, 21 m. NE. Treves. Pop. 2,284 in 1861.

BERNSTADT, a town of Prussia, prov. Silesia, reg. Breslau, on the Wida, 24 m. E. Breslau. Pop. 3,736 in 1861. It has an old castle, two churches, a hospital, and manufactures of cloth and linen.

BERRE, a town of France, dép. Bouches du Rhone, cap. cant., on the E side of the lagune of the same name, 16 m. NW. Marseilles. Pop. 2,091 in 1861. It is agreeably situated, and is regularly built, but the vicinity of the lagune makes it unhealthy. It was formerly fortified, and its ramparts still exist.

BERTHOUD, or **BURGDORF**, a town of Switzerland, cant. Berne, on a hill on the bank of the Emmen, 13 m. NE. Berne, on the railway from

Berne to Aarau. Pop. 4,250 in 1860. There is a public library and a castle, in which Pestalozzi laid the foundations of his establishment. The commercial business of the place is rather important, it being the depôt for the Emmenthal cheese.

BERTINORO, a town of Central Italy, prov. Forlì, on a mountain having the Ronco at its foot, 7 m. SE. Forlì, on the railway from Bologna to Ancona. Pop. 6,014 in 1862. It is the seat of a bishopric; has a cathedral, and four parish churches. The wines produced in its environs have a considerable reputation.

BERVIE, or **INVERBERVIE**, a royal bor. and sea-port of Scotland, co. Kincardine, on the coast-road from Dundee to Aberdeen, on the S. bank of the small river Bervie, where it joins the sea. Pop. 952 in 1861; inhabited houses, 181. It was created a royal burgh in 1362 by David II., who, after having narrowly escaped shipwreck on the coast, and having been kindly treated by the inhabitants of this small fishing village, testified his gratitude by conferring on it the honour in question. The inhabitants have from the earliest period been employed chiefly as fishers. They engage not only in the salmon and whale fishings in the mouth of the river and on the coast, but in the herring fishery on the N. shores of Scotland. Manufactures, also, have been introduced into the burgh; namely, the duck and dowlas linen weaving. This employment is furnished by manufacturers of Montrose, Arbroath, and Aberdeen. In addition to periodical markets, there is a grain-market, which is well attended. The quantity of grain annually purchased here is about 40,000 qrs., of which nearly the whole is shipped at Gourdon, a port about 1 m. S. of the town, where there are large granaries. The harbour at the mouth of the Bervie is very inferior to that at Gourdon, and admits only small vessels and boats. The staple business of this latter place, however, is fishing. Bervie joins with Montrose, Arbroath, Forfar, and Brechin, in sending a mem. to the H. of C. Registered electors, 36 in 1864. Annual value of real property, 1,728*l.* in 1864-5; corporation revenue, 167*l.*

BERWICK, a marit. co. of Scotland, having N. and NE. East Lothian and the German Ocean, and on the SE., S., and W. part of England, and the cos. of Roxburgh and Mid-Lothian. Area, 309,375 acres, of which about one-half is arable. The N. parts of the co. are occupied by the cold, bleak, unproductive range of the Lammermoor hills; but the Merse, or level portion, lying between the Lammermoor hills and the Tweed, by which the co. is separated from England, is one of the most fertile and best cultivated districts in the empire. The farms in the Merse are large, the farmers opulent and intelligent, and the land cultivated according to the most approved principles of modern husbandry. Wheat and turnips are here the great objects of attention; but barley and oats are also raised in considerable quantities. Steam power is employed in several thrashing-mills in this co. Few small, but no very large estates. The old valued rent was 14,864*l.*; the new valuation for 1864-5 was, exclusive of railways, 826,203*l.* The Lammermoor hills are principally depastured by sheep of the Cheviot breed. The co. is rather scantily supplied with wood, but some proprietors have made considerable plantations. Manufactures and minerals, of no importance. Principal rivers, Tweed, Whittadder, Blackadder, and Leader. Berwickshire contains 33 pars.; and had 36,613 inhabitants in 1861, with 6,385 inhab. houses. The co. returns one mem. to the H. of C. Registered electors, 1,248 in 1864. Greenlaw is the co. town.

BERWICK-UPON-TWEED, a fortified town and sea-port of England, NE. extremity of the kingdom, on the N. bank of the Tweed, and close to its mouth, 806 m. N. by W. London by road, and 342 m. by Great Northern railway. Pop. of borough, 13,265 in 1861. Berwick is built on the declivity and flat summit of an elevation rising abruptly from the estuary of the river; many of its streets are narrow and irregular, but the principal one is spacious, well paved, and lighted with gas; and, on the whole, the town has a respectable appearance, and contains many well-built houses. The Tweed is here crossed by three bridges: an old bridge of 15 arches, built in the reign of Charles II.; the Union Suspension bridge, some miles up the river; and by Stephenson's Royal Border railway bridge, on 28 arches, 126 ft. high, and 2,160 ft. long. The suburbs of Tweedmouth and Spittal, on the S. side of the river, are meanly-built villages, the inhab. being almost wholly employed in the fisheries, or the businesses connected with them. Spittal, however, is occasionally resorted to by visitors for sea-bathing, and it has a few respectable lodging-houses. The pop. of these suburbs are included in the par. bor. The old fortifications of Berwick were erected in the reign of Elizabeth, and about $1\frac{1}{2}$ m. in circ., forming an irregular pentagon: a battery of 22 guns commanding the English side, and a four and six gun battery defending the entrance of the harbour. The ramparts form an agreeable promenade. The Tweed is navigable as far as the old bridge, beyond which the tide flows about 7 m. The harbour is defended by a pier half a mile in length, with a lighthouse at the head, projecting in a SE. direction from the N. extremity of the river's mouth. But notwithstanding the protection afforded by this barrier, and though there be 18 ft. water over the bar at ordinary tides, and 26 at springs, the harbour is very indifferent. The channel is very narrow; a large portion of the harbour, particularly on the Berwick side, dries at low water, and is rocky and incapable of being deepened; and after heavy rains the *freshes* run out with great violence. The chief public structures are, Holy Trinity and St. Mary churches; a number of dissenting chapels; a free grammar-school; and six other free-schools, supported by the corporation, and educating in all about 800 children. Other notable buildings are the town-hall, in the centre of the high street, with a spire and ring of bells; the corn market, built in 1858; the music-hall; a pauper lunatic asylum; a dispensary, through which medical relief is afforded to the poor resident within 12 m.; a theatre; a public library; and assembly rooms. There are annual races in July, the course being at Lamber-ton, 5 m. distant. There is a good supply of water, brought from a spring $1\frac{1}{2}$ m. off, to the several public conduits. At the NW. end of the town are infantry barracks. The fisheries form the principal business of the place. Those of salmon in the Tweed have long been amongst the most celebrated and productive of any in the empire. Latterly, indeed, both their produce and rental, though still very considerable, have declined. The principal fisheries are within a short distance of Berwick; and the fish, excepting a small portion retained for home consumption, is all packed in ice, and shipped for the metropolis. (See TWEED.) Trout and whiting also abound in the Tweed. The sea fishery of the bay consists chiefly of cod, ling, halibut, haddock, and whiting; crabs and lobsters also abound, and these last are forwarded to the London market. Berwick has ship-yards, and a good coasting trade. The imports consist chiefly of timber, staves, iron, hemp, and tallow,

from Norway and the Baltic, and of groceries &c., coastwise; the exports, of salmon, corn, wool, and other agricultural products, coals to London and a few other ports, coastwise. In the year 1863 there entered the port 420 vessels, of 21,069 tons burden, and there cleared 200 vessels, of 11,646 tons. The whole of them were sailing vessels, with the exception of two small steamers, of 34 tons, which entered the port. By a treaty between Edward VI. and Mary II. of Scotland, Berwick was made a free town, independent of both kingdoms; but, by the Municipal Reform Act, it is constituted an English co. for all purposes except parliamentary elections. Its present municipal limits comprise that portion of the par. on which the town stands and the suburbs of Tweedmouth and Spittal, excluding all the agricultural portions. It is divided into 3 wards, and has 18 councillors.

The revenue of the corporation is derived from town and harbour dues; rental of the fisheries, tenements, and tithes in Berwick; lands on the W. side of the river, and a tract called Meadows and Stints. The tract lies near the town, and was granted to the corporation by James I. It is divided into three portions: the first is let in farms, and the rent appropriated to defray the general expenses of the corporation; the second is subdivided in parcels of $1\frac{1}{2}$ to $2\frac{1}{2}$ acres, whose value varies from 1*l.* 14*s.* to 9*l.*; there are 954 of these, called meadows: the third is parted in farms of about 40 acres each, the rents of which are each divided in 11 or 22 equal parts, called stints; of those, there are 561. These meadows and stints are allotted to the burgesses for life, with remainder to their widows; and, as vacancies occur, are allotted to others at annual public meetings held for the purpose, and called 'meadow and stint guilds.' The total revenue of the borough, in 1861, amounted to 10,633*l.*; gross sum assessed to poor rate, 44,996*l.*; net rateable value, 41,265*l.*; amount assessed to property tax, 36,986*l.* The first English charter of Berwick was in 30th Edw. I., by which it was made a free borough, with a market and fair: others, in 30th Edw. III. and 22nd Edw. IV., confirm the laws and privileges originally enjoyed under Alexander I. of Scotland. The governing charter, previously to the Municipal Reform Act, was granted in 2nd James I. Under the Poor Law Amendment Act, Berwick is the central town of a union of 17 parishes. The town has returned two members to the H. of C. since the reign of Mary. Previously to the Reform Act, the privilege was restricted within the limits of the ancient borough, and to the free burgesses. The constituency, in 1864, consisted of 715 registered electors, of whom 287 old free-men, and the rest 10*l.* householders.

The first authentic notice of Berwick occurs in the early part of the 12th century, when it belonged to Scotland, and was the chief town of Lothian. During the reigns of Alex. I., David I., and Malcolm IV., it had a castle and several churches and religious establishments. It was at that period the chief sea-port of Scotland, and one of the four royal burghs. Its castle was surrendered to England in 1174, under a treaty for the ransom of Wm. the Lion; subsequently to which it was repeatedly taken and retaken, being, from its frontier situation, almost invariably the first object of attack at every renewal of hostilities, till on the accession of James VI. of Scotland to the English throne, its importance in this respect ceased. During the last civil war it was garrisoned by the parliamentary forces.

BERWICK (NORTH), a royal burgh, par., and sea-port of Scotland, co. Haddington, at the S. entrance to the Frith of Forth, 22 m. E.

Edinburgh. It was created a burgh by James VI. Pop. of burgh 1,164 in 1861; inhabited houses 179. The burgh consists of two main streets, one running E. and W., the other leading N. to the harbour. It is a place of little or no trade, and has no manufactures. Its pier is good; but its harbour, which is dry at low water, is difficult of access. A branch line connects the port with the Edinburgh-Berwick railway. From its being in the neighbourhood of one of the best corn-growing districts of Scotland, grain is a considerable article of export. It is a good deal frequented in summer as a bathing-place. It joins with Haddington, Dunbar, Lauder, and Jedburgh, in sending a member to the H. of C. Registered electors, 87 in 1865. Corporation revenue, 380*l*. About 2 m. to the E. of the burgh stands the famous castle of Tantallan, one of the strongholds of the Douglas family.

BESANCON, a town of France, cap. dép. Doubs, on the river of that name, by which it is intersected, 47 m. E. Dijon, on the railway from Strasbourg to Lyon. Pop. 46,786 in 1861. The town is very strongly fortified, and is one of the bulwarks of France on the side of Switzerland. The works were improved by Vauban; but they have been since much extended and strengthened. Exclusive of the fortifications round the city, it has an extremely strong citadel, on an almost inaccessible rock, and outworks on some of the adjoining heights. The town is generally well built; but its streets are narrow and gloomy. The part called the city is almost surrounded by the Doubs; the communication with the suburb on the opposite bank, called Arènes, being kept up by a bridge. There is a station on the railway from Mulhouse to Lyon. Principal buildings, the cathedral, hotel of the prefect, hall of the courts of justice, the royal college, erected in 1697, the arsenal, hôtel de ville, barracks, theatre, public library, containing 54,000 volumes, exclusive of manuscripts, and several fine public fountains. The hospital of St. Jacques is a vast establishment, with 600 beds, and is said to be extremely well managed. A Roman triumphal arch, though a good deal mutilated, still exists, and serves as a sort of portico to the cathedral. Besançon is the seat of an archbishopric, of a royal court for the dépts. of Doubs, Jura, and Haute Saône, with tribunals of primary jurisdiction and commerce. The university, which existed previously to the revolution, has been replaced by an *académie universitaire*, or *faculté des lettres*; and it has also a royal college of the second class, with about 250 pupils; a diocesan seminary, a secondary medical school, a primary model school, two schools for the instruction of deaf and dumb, a royal academy of science and belles-lettres, a lyceum, a society of agriculture and arts, a museum of antiquities, and a free school of design and sculpture for 120 pupils. There is, adjoining to the town, a house of correction and refuge. Watch-making, introduced from Switzerland at the beginning of the present century, is the most important branch of industry carried on here. It employs above 2,000 hands, who annually furnish some 80,000 watches. About 200 work-people are employed in the carpet manufacture, and there are besides fabrics of jewellery, hosiery, hats, hardware, including coach and carriage springs, and gloves. Its breweries and tanneries are both on an extensive scale; the ale of Besançon is noted all over France. Among other articles, it annually furnishes about 600,000 bottles of Seltzer water: it is also the seat of a considerable and growing commerce.

Besançon is very ancient. It was laid waste by Attila; and has since undergone many vicissi-

tudes. It came, along with Franche Comté, into the possession of France in 1674.

BESSARABIA, or EASTERN MOLDAVIA, the most south-westerly prov. of Russia in Europe, having E. the Dniester, S. the Black Sea and the Danube, W. the Pruth, and N. Galicia. The area is estimated at 838 geog. sq. miles, while the pop. amounted to 792,000 in 1846, and to 919,107 in 1858. Exclusive of the great rivers by which it is nearly surrounded, it is intersected by several considerable streams, most of which, however, are either wholly dried up or greatly diminished during the heats of summer. The NW. portion, contiguous to Galicia, is hilly, or rather mountainous, and is occupied by extensive forests; but elsewhere the surface is nearly flat. Soil abundantly fertile, and, with the exception of the tract along the Danube, which is marshy and encumbered with lakes, it is suitable for most agricultural purposes. 'No trees, a few shrubs only, are observed near the rivers; the lakes, or stagnant waters, are covered with reeds; and in the plains between the marshes, the ox, buffalo, and bison wander among pastures where the herbage rises to the height of their horns. In the cultivated land millet yields 100, and barley 60 fold. The horse and the sheep exist in a wild state.' (Malte-Brun, vi. 379, Eng. trans.) But these returns seem exaggerated. Wheat, barley, and millet are the only species of corn that are raised. According to official accounts, 189,141 chetwerts produced a return of 651,820 chetwerts, that is, of about 5 to 1. Hemp, flax, and tobacco are produced in considerable quantities. The breeding of cattle is the principal business of the inhabitants; and they are largely exported, with hides and tallow. With the exception of tanneries, distilleries, and tallow and soap works, there are either no manufacturing establishments in the country, or none worth notice. Large quantities of salt are produced from the lakes contiguous to Akerman (which see). A good deal of inferior wine is made. Education is not much attended to, though great progress in this respect has been made in recent years, particularly since the accession of Alexander II. to the throne of Russia.

BESSE, a town of France, dép. Puy de Dôme, cap. cant., 20 m. SSW. Clermont. Pop. 1,916 in 1861. The town is built of basalt, in the middle of a volcanic country; and the environs offer several natural curiosities. It has some trade in cattle and cheese.

BESSINES, a town of France, dép. Haute Vienne, cap. cant., on the Gartempe, 10 m. E. Bellac. Pop. 2,590 in 1861. The place has some trade in cattle and agricultural produce.

BETHLEHEM, (*Beit-el-Lehm*, *House of Bread*), a famous town of Palestine, 6 m. S. Jerusalem: lat. 31° 44' N., long. 35° 15' E. Pop. from 8,000 to 4,000, of whom by far the greatest part are Catholic, Greek, and Armenian Christians. A splendid church, erected by the empress Helena, stands over a grotto or cave, said to be the birth-place of Christ. Connected with the church are convents for the three sects of Christians noticed above, of which that belonging to the Latins is a fine building; but more resembling, externally, a fortress than a religious establishment. Some remains of an old aqueduct, formerly 16 or 18 m. in length, exist on the W. side of the town; but the chief buildings consist of chapels, and other memorials of holy persons, and of the events for which the place and neighbourhood are celebrated in sacred history. The houses of the inhabitants are mean in the extreme.

The country round Bethlehem is extremely fruitful, yielding figs, grapes, olives, and sesamum

in great abundance; but here, as in other parts of this neglected land, cultivation is wanting. There is no deficiency of water; three extensive reservoirs, called the pools of Solomon (Eccles. ii. 6), and a copious fountain, said to be the 'sealed fountain' of the same prince (Sol. Song, iv. 12), lie on the S.; on the NW. is a large cistern of rain water, said to be the 'well by the gate,' whence David's mighty men drew water, while the place was in the hands of the Philistines (2 Sam. xxiii. 16); and the whole neighbourhood abounds in springs and rills.

The tract between Bethlehem and Jerusalem is the valley of Rephaim (Giant's Valley, Josh. xv. 8), the scene of many combats between the Jews and Philistines. (2 Sam. v. 18, *et al.*) Here are shown many pretended relics of the scriptural age; as the house of Simeon, the tomb of Rachel, the village of Rama, the cave of Engadi, the well in which was seen the star of the Messiah, and many others. The original name of Bethlehem was Ephrath (Gen. xxxv. 19): a term which, like its present designation, referred to the fertility of its soil. It was never very considerable in respect of size (Micah v. 2), but seems to have been always regarded as important; and being the scene of the pastoral tale of Ruth, and the birth-place of David and Jesus Christ, it has acquired a celebrity hardly surpassed even by that of Jerusalem. It was fortified by Rehoboam (2 Chron. xi. 6), and, in a subsequent age, the emperor Hadrian is said to have built a temple here to Adonis. Of this, however, no vestige remains. The present inhab. enjoy a considerable share of liberty: they are bold and hardy, and successfully resist every attempt at oppression by their governors. They are consequently stigmatised, by the Turks, as of a rebellious spirit. There was formerly another Bethlehem, more to the N., belonging to the tribe of Zabulon (Josh. xix. 15). (Maundrell, 116-123; Volney, ii. 270, 271.)

BETHUNE, a town of France, dép. Pas de Calais, cap. arrond., on a rock, at the foot of which is the Brette, 18 m. NNW. Arras, on the railway from Paris to Calais. Pop. 8,264 in 1861. The town is well fortified, by works partly constructed by Vauban. Its plan is that of an irregular triangle; the citadel, which is isolated, occupying one of the angles. It has a tribunal of primary jurisdiction, a communal college, two hospitals, manufactures of linen and cloth, breweries, and a considerable trade in linen, cheese, and rape oil, the canal of the Lave, which unites with the Lys, as well as the railway, greatly facilitating its trade. It was taken by the allies in 1710; but was restored to France by the treaty of Utrecht.

BETLIS, or BITLIS, a town of Turkish Armenia, 18 m. W. from the W. extremity of Lake Van, and about 130 m. E. by N. Diarbekr, lat. 34° 35' N., long. 42° 50' E. It stands in a wide ravine, open to the E., but closed by high mountains to the W.; the houses being dispersed over the steep banks of a stream which runs through it, and on several of the neighbouring hills; it is, therefore, most irregular. The houses are built of red stone, and are generally of two stories, with grated windows to the streets, the latter being paved with round stones. The houses being much scattered and intermingled with gardens, the town covers a large extent of ground: it is not enclosed by a wall, and this is hardly necessary; each house being, in fact, a pretty strong fortress. It is said to contain 1,500 houses, of which 500 belong to Armenians; and if so, its pop. may amount to about 9,000. By some, the pop. is estimated at 15,000. The town contains four caravanseras, three large and twelve small

mosques, three baths, eight Armenian churches, and one Nestorian. The most remarkable object in the town is the old castle, in its centre, on a rock 80 ft. in height, and built up with thick walls to an elevation of 100 ft. There are a considerable number of butchers, bakers, gunsmiths, and silversmiths; but the principal manufacture consists of coarse cotton cloth, and tobacco. The territory produces fruits and vegetables in perfection. The army of the Turkish sultan, Solymán the Magnificent, sustained a signal defeat by the Persians, near Betlis, in 1554.

BEUTHEN, a town of Prussia, prov. Silesia, reg. Oppeln, cap. circ., 85 m. NE. Ratibor. Pop. 4,004 in 1861. It has three Catholic churches, three convents, with fabrics of coarse cloth, pottery, zinc, and calamine, and breweries. There is another town of the same name in Silesia, reg. Liegnitz, on the Oder, 12 m. W. by N. Glogau, on the railway from Breslau to Posen. The latter place, with a population of 2,850, is commonly distinguished as *Alt-Beuthen*. It has fabrics of cloth, earthenware, and straw hats, and some boat building. Its environs are very fertile.

BEVEREN, a town of Belgium, prov. E. Flanders, 6 m. W. Antwerp. Pop. 6,900 in 1864. It stands on the road from Antwerp to Ghent, is well built, and has a fine church, with a lofty spire. About 2,000 women are employed in the lace manufacture, and there are several breweries, tanneries, and distilleries.

BEVERLEY, a parl. bor. and market town of England, E. riding co. York, of which it is the cap., near the Hull river, to which it is united by a canal, 157 m. N. London, 28 m. ESE. York, and 9 m. NNW. Hull, on the railway from Hull to Scarborough. Pop. of municipal borough 9,654, and of parl. borough 10,868 in 1861. The town is believed to owe its origin to an ancient monastery, which, after having been sacked by the Danes in 867, was restored by Athelstan, who granted the place several privileges, and made the monastery a sanctuary for criminals. It is a well built, handsome town. The great glory of Beverley is the minster, or collegiate church of St. John, which, in size and beauty of architecture, is far superior to many cathedrals. This splendid structure, which has been erected at different periods, in what are called the decorated and perpendicular English styles, is 334 ft. from E. to W.; the length of the great cross aisle is 167 ft., and the two towers at the W. end are each 200 ft. in height. Near the altar is the seat of refuge, with an inscription assuring criminals of their safety while there, and a tablet with effigies of St. John of Beverley and Athelstan. The parishes of St. John and St. Martin have the minster as a church common to both. It is kept in excellent repair by the rent of estates appropriated to that purpose by Queen Elizabeth and Sir Michael Warton. St. Mary's church is also a magnificent structure in the old Norman style; and lands producing above 800l. a year have been left for its support. The Primitive and Wesleyan Methodists, Independents, Baptists, Roman Catholics, and Society of Friends, have chapels here. The sessions-house, and house of correction for the E. riding, are situated in the immediate vicinity of the town: the latter, which is a very large establishment, and constructed on the most approved principles, cost above 40,000l. Here also is the Register-office for the E. riding. The endowed schools are, a grammar-school, of great antiquity, to which is attached two fellowships, six scholarships, and three exhibitions to St. John's, Cambridge; a Blue-coat School, founded in 1709; Graves's School, founded in 1804; and schools on the sys-

tems of Lancaster and Bell. There are also several almshouses, an hospital, dispensary, mechanics' institute, public reading-rooms, a savings' bank, a theatre, open occasionally, and assembly-rooms. Races are held near the town every June. The corporation of Beverley consists of a mayor, recorder, six aldermen, and eighteen councillors, elected by the burgesses and freemen. The bor. receipts amount to about 2,000*l.* per annum. The corporation hold a criminal court, with power of life and death, which, however, is never exercised; a court of session, called the Provost's Court, for all pleas to any amount, except those for landed property; and a court of requests for debts under 5*l.* The public business is transacted in the Hall-garth or Guildhall, where the quarter sessions for the riding are held. The elective franchise, granted by Edw. I., was not exercised till the beginning of Eliz., since which time the borough has continued to return two members to the H. of C., the right of election, previously to the Reform Act, being vested in the freemen, whether resident or not. The electoral boundaries comprise the parishes of St. Mary, St. Martin, and St. Nicholas, and the part of St. John's within the liberties. The constituency, in 1864, consisted of 1,213 registered electors, of whom 643 old freemen, and the rest 10*l.* householders. The election for the members of the E. riding is held here. The town is situated in a fertile country, and has an extensive retail trade; tanning is also extensively carried on. Near the town is a large factory for paints, cement, and Paris white, which last is made from the cliff-stone raised at Queen's Gate, and found to be peculiarly adapted to the purpose: there are also factories for patent wrought-iron wheels, and for fancy ironwork and agricultural implements of all descriptions. A briar corn trade is carried on. Markets for general purposes on Saturdays, and for cattle on alternate Wednesdays, held in an enclosed area of four acres, ornamented by a stately cross resting on eight columns. There are here eight great cattle fairs. Two private banking-houses, a branch of the Hull Banking Co., and a savings' bank, have been opened here. Fisher, bishop of Rochester, who suffered martyrdom under Henry VIII., was a native of the town.

BEWDLEY, an ancient market town, bor., and chapelry of England, co. Worcester, 14 m. NNW. Worcester, 19 m. SW. Birmingham. 108 m. NW. London, on a branch of the Great Western railway. Pop. of municipal bor. 2,905, and of parl. bor. 7,084, in 1861. The town is locally in the hund. of Doddingtree, but has separate jurisdiction. It is built on the descent of a hill, on the W. bank of the Severn, over which there is a fine stone bridge. The more ancient part of the town was built at some distance from the river. It had formerly 4 gates, 2 of which were standing in 1811, but they have been since pulled down: the principal street is well built and paved. The town-hall is a fine modern building, erected on 3 arches, with handsome iron gates leading to the market-place. The church is a neat stone edifice, with a tower. A charter was granted by Edward IV., but the governing charter was given by James I., and confirmed by Anne. The corporation hold a court of session annually, and a court of record for all pleas, and for the recovery of debts not exceeding 100*l.* The lord of the manor holds an annual court leet, at which constables and other officers are appointed. In the reign of Henry VI., Bewdley enjoyed many privileges; among them, that of being a sanctuary for persons who had shed blood. This town has sent 1 member to the H. of C. since 3 James I., who, previously to the Reform

Act, was returned by the corporation, a self-elected body. The new boundary act defines the limits of the bor. to be the par. of Ribbesford, and the hamlets of Wribbenhall, Hoarstone, Blackstone, Netherton, and Lower Mitton, with Lick-hill, which together had a constituency of 370 registered electors in 1864. There are several well endowed charities. The manufacture of woollen caps, called Dutch caps, formerly flourished here, but has many years since disappeared. The principal trades and manufactures now existing are in malt, tanning and currying leather, and making combs: besides which there are some rope-works and a brass-foundry. There is also a considerable carrying-trade, connected with the Severn: near the town is a mineral spring. Market-day, Saturday. Fairs, 23rd April, 24th July, and 11th Dec., for cattle and pedlary.

BEX, a town of Switzerland, cant. Vaud, cap. circ., in the fertile plain of the Rhone, on the Avençon, 26 m. SE. Lausanne, on the railway from Lausanne to Martigny. Pop. 2,453 in 1860. The town is chiefly celebrated for the salt springs and salt mines in its vicinity.

BEYROUT, or BEIROUT (an. *Berytus*, *Βερυττος*), a sea-port town of Syria, on the S. side of an extensive bay open to the N., 48 m. SSW. Tripoli, 19 m. NNW. Sidon, and about 3 m. E. from Cape Beyrout, the latter being in lat. 33° 49' 45" N., long. 35° 27' 54" E. Pop. 12,000 or 15,000. There are here no public buildings of any beauty or importance, nor are many remains of antiquity to be met with; for though the modern town occupies the site of the ancient one, the latter was long since destroyed by repeated earthquakes, and the modern buildings are erected over the ruins of the ancient edifices. Along the shore, however, and in part under the water, are some mosaic pavements, fragments of columns, and (W. of the town) a thick wall, supposed to be of the time of Herod the Great. The bazars are large and well frequented; but there seems to be a deficiency of private shops, and the streets are, in general, narrow and crooked. A plentiful supply of water from a tolerably large river (*Nahr Beyrout*), and a great number of wells, modify, in some degree, the heat of the atmosphere, and render the town much cleaner than the generality of those in the E. The walls (of a soft sandstone) are about 3 m. in circ., and the suburbs are perhaps equal in extent to the town itself. The neighbourhood is very fertile, producing all kinds of fruit; but the chief article of cultivation is the mulberry tree, an extensive and important manufacture being carried on here of silk goods, especially of sashes. Beyrout had formerly a small port, formed by a strong mole, but its present mole or jetty is of very inferior dimensions, and is scarcely sufficient to shelter boats. There is, however, good anchorage $\frac{1}{2}$ m. from the town, in six or seven fathoms; and large ships may anchor a little farther out in 10 or 11 fathoms. After centuries of neglect, it has in recent times again become a place of some importance. Three lines of steamers French, Austrian, and Russian, connect Beyrout with the chief ports of the Mediterranean, while there is a good carriage-road, completed in 1865, to Damascus, and a line of telegraph to the same place. The imports and exports, as well as the shipping, in the five years 1856-60, are shown in the subjoined statement. The great decrease of the exports in 1859, and, more still, in 1860, was owing to the failure of the crops in many parts of Syria, which entailed great privations upon the inhabitants. (Report by Mr. Moore, British Consul-General at Beyrout, in 'Consular Reports,' 1862.)

Years	Number of Vessels	Tonnage	Value of Imports	Value of Exports
			£	£
1856	92	35,008	519,466	42,765
1857	66	26,381	276,472	66,912
1858	73	30,837	432,987	31,348
1859	63	25,661	361,719	8,952
1860	63	31,761	363,585	2,909

The exports chiefly consist of galls, madder, gums, silk (raw and wrought), wine and oil. The imports are—muslins, cottons, tin, hardware, cloths, and West India produce.

Berytus was a very ancient town of the Phœnicians, deriving its name, according to Stephen of Byzantium (art. *Berytus*), from the number of its wells, the prefix *beer* signifying a well in the language of the country. Under the Romans it rose to great eminence, notwithstanding it had been entirely destroyed in the wars of Alexander's successors, about 80 years before the Roman conquest of Syria. Augustus planted in it a colony, gave it his daughter's name, with the addition of the epithet *Felix* (*Berytus Colonia Julia Felix*). (Plin. v. 20.) A school of law, established here in the beginning of the third century (probably by Alexander Severus), continued for 300 years, or till the town was overwhelmed by an earthquake in 551, to be the most celebrated institution of the kind in the empire. (Gibbon, cap. 17.) But the town again revived; and, under the Saracens, attained to considerable importance. It was frequently captured and recaptured during the Crusades, at which period the mole, forming its port, was destroyed. In the seventeenth century it was, for a short while, the capital of the famous Druse Emir, Fakr-ed-Din, and latterly it fell into the hands of Djeddar, pasha of Acre, who built its present walls, cut a canal from the river to the town, erected several fountains, and otherwise improved and beautified the place. At present it is the capital of a small pashalic, the pasha being a French renegade, formerly a colonel in Napoleon's army. The Phœnician deity Baal-Beerith (Lord of Wells) is said to have been named from, or to have given name to, this place, which is also famous in Christian legends as the scene of St. George's victory over the dragon.

BEZIERS, a city of France, dép. Hérault, cap. arrond., agreeably situated on a fertile hill, in a rich country, at the junction of the *Canal du Midi* with the Orb, and of the railways from Cette to Toulouse, and from Narbonne to Carcassonne, 38 m. SW. Montpellier, and 46 m. E. Toulouse. Pop. 24,270 in 1861. At a distance the city has a fine appearance, but on entering the illusion vanishes. The houses are mean, and the streets narrow and crooked. Its citadel has been demolished; but it is still surrounded by old walls, flanked with towers, round which is a newly-planted promenade. The cathedral, a Gothic building, has a noble interior, and its sharp towers and castellated walls give it at a distance the appearance of a superb Gothic mansion. The view from its terrace is extensive and delightful. The ancient episcopal palace is the seat of the courts and government offices. Its convents have all been abolished. Beziers has tribunals of primary jurisdiction and commerce, a communal college, an agricultural society, a public library with 5,000 volumes, and a theatre. It produces silk stockings, dimities, parchment, verdigris, starch, gloves, glass, and highly-esteemed sweetmeats; but it is principally distinguished by its distilleries, which are extensive, and produce brandy, little, if at all, inferior to that of Cognac. Its situation makes it the centre of a considerable trade.

Beziers is very ancient; and the remains of an amphitheatre, and of cisterns and other Roman works, may still be recognised. In 1209, during the first crusade against the Albigenes, Beziers having afforded protection to numbers of the fugitives, was besieged by the Catholic army, who, having carried it by assault, committed, at the instigation of the pope's legate, an indiscriminate massacre of those found within its walls, whether heretics or not. It also suffered severely during the religious wars of the sixteenth century.

Barbeyrac, the learned translator and annotator of Grotius and Puffendorf, and Riquet, the engineer of the *Canal du Midi*, were both natives of Beziers.

BHADRINATH (*Vadarinatha*), a small to, in N. Hindostan, prov. Kumaon, in a valley of the Himalaya, 80 m. N. Almora, and 10,294 ft. above the level of the sea; lat. 30° 43' N., long. 79° 39' E. It is remarkable for a temple, much venerated by the Hindus; and visited annually by 50,000 pilgrims from all parts of India. It has warm, sulphurous, and cold springs.

BHAMO, or BANMO, one of the chief towns in the Birman emp., cap. of a Shan principality, and chief seat of the Chinese trade with Birmah; on an elevated bank of the Irrawadi, 170 m. NNE. Ava, and 20 m. W. the Chinese border; lat. 24° 10' N., long. 96° 45' E. Next to Ava and Rangoon it is the largest place in the empire, and contains 2,000 houses, inhabited mostly by Chinese; is surrounded by numerous well-peopled villages, and defended by a wooden stockade. The houses in Bhamo and its district are better than those in most parts of the Birman dominions; those of the Chinese are built of brick, and those of the natives, of reeds, thatched with grass, and separately railed in: there is a good bazar. The trade in woollens, cottons, and silks is wholly in the hands of the Chinese, who mostly arrive here in caravans in December and January, but 500 of them live constantly in the town, as well as many other foreigners.

The Shans, Singphos, and others, purchase salt, *gnapee* (dried fish), and rice, in large quantities, especially salt, which fetches a very high price. The people appear opulent; have adopted in great part the Chinese costume; and wear more ornaments than in any town in Birmah. The revenue of the district, which is of no great extent, is said to amount to 3 lacs of rupees a year. Old Bhamo, the original Shan town, is situated two days' journey up the Tapan, the nearest tributary of the Irrawadi. (Crawford's Embassy; Asiatic Journal, Calcutta, No. lxxiv.)

BHATGONG, a city of N. Hindostan (*Nepaul*), said formerly to contain 12,000 houses; once the seat of an indep. chief, and though much decayed, still the favourite residence of the Nepalese Brahmins; 8 m. ESE. Catmandoo; lat. 27° 40' N., long. 85° 8' E. The palace and other buildings have a striking appearance, owing to the excellent quality of the bricks and tiles.

BHATNEER, a to. of Hindostan, prov. Rajpootana, the mod. cap. of the Bhaty country, and the most E. town in the presid. Bengal, 195 m. WSW. Delhi; lat. 29° 86' N., long. 74° 12' E. It was taken and destroyed by Timour, in 1398, and again taken by the rajah of Bikanere in 1807, who retained possession of it for several years.

BHAUGULPORE, or BOGLIPOOR, a distr. of Hindostan, principally in prov. Bahar, but the E. portion (Rajmahal) in Bengal, between lat. 23° 4' and 25° 49' N., and long. 86° 15' and 87° 31' E., having N. Tirhoot and Purneah distr.; E. the latter and Moorsheadabad; S. that of Beerbhoom

and W. Bahar and Ramghur: length, NW. to SE., 183 m.; breadth, 80 m.; area, 8,225 sq. m. Pop. 2,020,000. It comprises a territory on both sides the Ganges, is divided into 22 thannahs, and contains the towns of Mungger, Rajmahal, and Bhaugulpore. S. of the Ganges it is hilly, and its hills are connected with the Vindhyan chain; they are in two separate clusters, one in the E., the other in the W., and connected by a third lateral range: the E. hills approach nearer than any other to the Ganges. Besides this river, which runs through Bhaugulpore for 60 m., the chief rivers are the Goggree and Gandahi. To the S. of the Ganges the streams are mere hill torrents, which, though wide, are usually fordable. The *jheels*, or marshes, are neither large nor numerous. In the dry season their beds are often partly overgrown with the wild rose, a sign of the fertility of the soil, which is, however, not universal, much of Bhaugulpore, even in the plains, being stony and bare. The climate is warmer than in Puneah, the hills hotter than the plains. E. and W. winds are the most prevalent: night frosts with the latter often occur to the S. of the Ganges; but, for a warm climate, the W. part is remarkably healthy, and fevers are common only in the E. Vegetation very similar to that about Calcutta. There are a few wild elephants on the E. hills, but the most remarkable quadruped is the Hanuman ape, which abounds in immense numbers. Some tribes of people inhabit the E. hills, differing greatly from the rest of the population, and thought to be descendants of the aborigines. In person they resemble the other tribes of the Vindhyan inhabitants; their faces are oval, but not lozenge-shaped, as in the Chinese; eyes similar to those of Europeans; noses obtuse, seldom arched, but not flat; lips full, but not like the negro's. They call themselves *Maler*, and number about 58,000; divided into two sections, called the N. and S. mountaineers, who differ materially in many of their manners and customs, and do not intermarry. They are good-natured, but not hospitable; less civilised, but in quite as comfortable a condition as the inhabitants of the low country; their houses are neater, and the ornaments of their women more numerous and valuable. Their chiefs were formerly much addicted to predatory descent, but have been pensioned by the government to refrain from them. They respect Brahmins, although of a different religion: their own deities have neither images nor temples. Another rude tribe, called *Maiyas*, of about 100 families, live on the W. hills, and subsist by felling and selling timber. The land in the E. parts of this district is more fertile than that in the W.: rice, wheat, garden produce, at Mungger; legumes, *ricinus*, cotton, and sugarcane, are the chief objects of culture; about 8,000 sq. m. are under tillage. The high rice-lands are manured, and drill husbandry practised; and some of the implements of agriculture are a decided improvement upon those of Bengal. The farms are small, and sometimes cultivated by several farmers clubbing together: most of the zemindars cultivate their own estates, employing their poorer relatives in the operative duties. 284,000 begas were once purchased by government, to afford a land settlement to veteran and invalid soldiers; but the plan was not found to answer, and has been given up. Cottons, mixed cloth (silk and cotton), sugar, fire-arms, and metallic and domestic articles, are the principal manufactures. The establishment of the line of railway from Calcutta to the northern and north-western provinces, which runs in part through Bhaugulpore, has given a great impulse to commercial transactions.

Portions of the four ancient countries of Angga,

Gaur, Mithila, and Magadha, are comprised in this district, which contains many Buddhist, Brahminical, and Mohammedan antiquities. In the 12th century W. Bhaugulpore was seized by the Moslems, and the E. by the Bengalese, and down to the time of British supremacy both were in a state of constant anarchy. Cossim Ali intrenched himself in this district; but after his works were destroyed, in 1763, the British dominion was soon quietly established. (Martin's Hist. of E. India, ii. 1-290.)

BHAUGULPORE (*the abode of refugees*), cap. of the above distr., seat of a gov. resident and court of circuit; beautifully situated, 2 m. S. of the Ganges; 110 m. NW. Moorsshedabad; 240 m. NW. Calcutta, with a station on the East Indian railway: lat. 25° 18' N., long. 86° 58' E. Pop. about 30,000, chiefly Mohammedans. The city covers a great extent of ground, but is meanly built, consisting of scattered market-places, badly supplied, and inconveniently placed on declivities. Its greatest ornaments are the European and Moslem places of worship; the latter are of brick, and amongst the handsomest in the prov., although small and some of them ruinous: the monument of Hoseyn Khan, a square building with five neat domes, is worth notice. There are a gaol and hospital, a Mohammedan Arabic college, and an English school. The Roman Catholics, partly descendants of the Portuguese and partly native Hindoos, have a small church. A monument to the memory of Mr. Cleveland, by the council of Bengal and the inhab. of Bhaugulpore, has been erected about 1 m. from the town. A little to the NW. are two remarkable round towers, respecting which no tradition exists, but they continue to be visited by the Jain sect. Bhaugulpore is embosomed in groves of palmyra, tamarind, and mango; its vicinity abounds with swelling hills, and is extremely fertile, well cultivated, and healthy. Its trade has much increased since the opening of the line of railway which connects it with Calcutta, which took place Nov. 1, 1861.

BHOOJ, a city of Hindostan, prov. Cutch, of which it is the modern cap.; built about two centuries ago, in a plain SW. of a hill called Bhoojan, 50 m. NE. the Indian Ocean; lat. 23° 15' N., long. 69° 52' E. Pop. about 20,000. From the N. the city has an imposing appearance; its white buildings, mosques, and pagodas being intermixed with plantations of date-trees; but the interior has a very different appearance. It is surrounded by a high, thick, and well built stone wall, flanked with round and square towers, mounted with artillery. Streets narrow and dirty, and turning at sharp angles: houses generally within strong walled enclosures, provided with loopholes, and each forming in itself a complete fort. The palace is a well-built castle, adorned with several cupolas, and domes covered with enamel in the Chinese style; temples numerous, many of them large, and presenting a multitude of elaborate decorations. Everywhere are seen memorials of *suttee* and other immolations: the mausoleum of Row Lacka, grandfather of the present ruler, and of a lady who ascended his funeral pile, is the most remarkable, and would be considered a beautiful ornament in any European city. Some others are in Moorish architecture, worked up with stucco to resemble marble. The hill Bhoojan is surmounted by extensive but ill built fortifications, which are no protection to the town; they enclose a temple dedicated to the *Nag*, or cobra-de-capello. This fort was taken by escalade by the British, in 1819. W. of the city, and close to the walls, there is a large tank or pool containing an elevated terrace, formerly a place of recreation for the chiefs; but

the buildings are now in ruins. Bhoj is celebrated for its gold and silver works.

BHOPAUL, a state of Hindostan, tributary to the British, prov. Malwa and Gundwanah; between lat. $22^{\circ} 30'$ and $23^{\circ} 40'$ N., and long. $76^{\circ} 40'$ and $79^{\circ} E.$, having N. and W. Scindia's dom.; E. and S. those of the presid. of Bengal and the Nerbudda river, which forms its entire S. boundary: length, E. to W., 145 m., greatest breadth 80 m.; area, 6,772 sq. m. The country is full of jungles, and uneven; the chief range of the Vin-dhyān mountains intersects its S. portion; but the soil is generally fertile, especially in the valleys, and watered by numerous streams. The ruling people are Patans, established here by Aurungzebe early in the 18th century, and of course Mahomedana. In 1812, the vizier Mahomed made a vigorous defence against Scindia, the rajah of Berar, and the Pindarries; but on his death, in 1816, the British interfered to protect his dom., and the Marquis of Hastings conferred on his successor, Nusseer Mahomed, in 1817, a considerable part of the present territory in reward for his hearty co-operation with the British. It was then calculated that in five years the revenue of the rajah would increase to nearly 30 lacs a year. Bhopaul continues in a tranquil, and evidently prosperous condition.

BHOPAUL, the cap. of the above state, placed on the boundary between Malwa and Gundwanah, lat. $23^{\circ} 17' N.$, long. $77^{\circ} 30' E.$; 110 m. E. Oojein; 310 m. SW. Allahabad. It is surrounded by a stone wall, but is in a dilapidated state, as well as its suburb, and a Hindoo fortress at its SW. extremity. There are two considerable tanks immediately adjoining it, from which two rivers take their rise.

BHURTPORE, a small territory of Hindostan, prov. Agra, including the small pergunnah Tanna; shape somewhat triangular, having NE. the British dom.; SE. those of Scindia; and W. the rajpoot state of Macherry: area, 1,946 sq. m. It is inhabited by Jauts, who migrated from the banks of the Indus, and settled here about 1700, and who have assumed to themselves the title of the military caste, and their chief that of rajah. The soil of Bhurtpore is light, but well watered and cultivated: cotton, corn, and sugar, are the chief agricultural products. Wood is very scarce and dear; the houses are all of red sandstone, and the villages in good condition and repair. Wells are numerous, and constructed by building the masonry first, which is afterwards undermined and sunk. The peacock is an object of veneration. The chief towns are Bhurtpore and Deeg. Large quantities of salt are produced from brine springs at Comber. In 1768 this territory was at its greatest extent; stretching along the course of the Jumna river, from near Delhi to Etawah; but the greater portion was soon after conquered by Nudjiff Khan. In 1828, having been usurped from its rightful sovereign, the British interfered and took the capital, since which it has been under their protection.

BHURTPORE, the cap. of the above territory, and seat of its rajah, 81 m. NW. Agra; lat. $27^{\circ} 17' N.$, long. $77^{\circ} 23' E.$ It is about 8 m. in circum., and was formerly surrounded by a mud wall 60 ft. thick, flanked by many bastions, and defended by a strong fort; but these fortifications have been mostly blown up and demolished. This city was built with part of the spoil pillaged by the Jauts from the baggage of Aurungzebe's army during his last march to the Deccan, and became afterwards a celebrated mart for military stores. It resisted with great vigour the forces of Lord Lake, who lost, in 1805, 3,100 men under its walls; but

it at last capitulated to him. In 1826 it was stormed and taken by Lord Combermere from the usurper Doorjun Sāl, when the present rajah Bulwunt Sing, was established in its possession. (Heber's Narrative, ii. 357-360.)

BIAGGIO (ST.), a town of Southern Italy, prov. Girgenti, 8 m. W. Nicastro. Pop. 2,107 in 1862. Its situation is insalubrious, and it suffered severely from an earthquake in 1783. Its territory produces good wine, and has some mineral springs.

BIALYSTOCK (Russ. *Bjelostock*), a circle, or administrative division of Russia in Europe, forming part of the government of Grodno. Area, 3,436 sq. m. Pop. about 260,000. Surface flat, with some slight undulations; soil generally sandy, but fertile. It is bounded on the S. by the W. Bug, a navigable affluent of the Vistula, which is its principal channel of communication. Forests extensive and valuable, but much dilapidated, through want of proper regulations as to their management. Agriculture is almost the only employment; and considerable quantities of corn, especially rye and wheat, with linseed, hops, and timber, are sent to Dantzic and Elbing. The nobles are very numerous, being estimated to amount to 9,000 families, or nearly 50,000 individuals; but the great bulk of them are steeped in poverty, many being compelled to cultivate their little patches of land with their own hands, or hire themselves to others. Manufacturing industry is all but unknown, and only the most common and indispensable trades are carried on. (Schnitzler, La Russie, p. 557.)

BIALYSTOCK, a town of Russia in Europe, cap. prov. same name; lat. $53^{\circ} 7' 35'' N.$, long. $23^{\circ} 18' E.$ Pop. 13,630 in 1858. It is a handsome town; houses of brick, with the gables to the streets, which are straight and well paved. The castle of Count Branicki is the distinguishing feature of the town.

BIANA, a to. of Hindostan, prov. Agra, territ. Bhurtpore, 50 m. WSW. Agra, lat. $25^{\circ} 57' N.$, long. $77^{\circ} 8' E.$ It stands at the foot of a hill, the ridge of which is covered with the remains of buildings, including a fort and a high pillar, conspicuous at a great distance. The town is large, contains many stone houses, and a good bazar. It preceded Agra as the cap. of the prov. and is often mentioned in the memoirs of the Emp. Baber.

BIBERACH, a town of Württemberg, circ. Danube, cap. bailiwick, in a fertile valley, on the Ries, 22 m. SSW. Ulm, on the railway from Ulm to the lake of Constance. Pop. 5,720 in 1861. The town is encircled by walls flanked with towers, and has four churches, among them the parish church of St. Martin, with some fine fresco paintings, a college, three schools, and a well endowed hospital. Some branches of the linen and woollen manufactures are carried on, and there are numerous tanneries and breweries, and a bell-foundry. The mineral waters of Jordansbad are at a short distance from the town. It is the birthplace of Wieland; and in 1796 the French, under Moreau, defeated the Austrians in its vicinity.

BICANERE, or BICKANEER, a territ. of Hindostan, prov. Rajpootana, divis. Marwar, chiefly between lat. 27° and $29^{\circ} N.$; having N. the Bhatti country; S. the Jondpoor and Seypoor dom.; E. Hurriana and the Shehawutty country, and W. Jesselmere and the great desert, of which it forms a part: area, 18,000 sq. m. The surface is elevated, but flat, sandy, and destitute of water where not irrigated by wells, which are from 100 to 200 feet deep. The crops are very precarious,

and greatly dependent on the periodical rains; rain-water is carefully preserved in cisterns. *Bejurah* and other Indian pulse are almost the only articles grown, other necessities being supplied from the contiguous prov. Coarse and fine rice are imported from Lahore; wheat from Jey-poor; salt from Comber; spices, copper, and coarse cloth from Jesselmere. The other imports are sugar, opium, and indigo: horses and bullocks of an inferior breed are nearly the sole exports. Bicanere and Choore are the chief towns. In 1818 the rajah was admitted under British protection.

BICANERE, the cap. of the above dom., and residence of its rajah, in the Indian desert; 240 m. WSW. Delhi, and 145 m. NNW. Ajmeer; lat. 27° 57' N., long. 78° 2' E. It is fortified by a strong wall strengthened with many round towers, and contrasts imposingly with the desolation around it, which is as great as that of the wildest tract of Arabia, except on its N. side, where there is a wooded valley. Most of the dwellings in the town are mere mud huts painted red: there are some lofty white houses and temples; and at one corner a citadel about $\frac{1}{2}$ m. sq., encompassed by a wall 30 feet high, and a good dry ditch, a confused assemblage of towers and battlements, overtopped by crowded houses. Its best security is in the scarcity of water in the country around.

BICESTER, a par. and town of England, co. Oxford, hund. Ploughley, 52 m. NW. by N. London, on the London and North Western railway. Area of par. 2,520 acres. Pop. of par. 3,049 in 1861; of town, 2,798. The town is well built on a small stream, that joins the Charwell at Islip. The church, built in 1400, on the site of an older one, contains many ancient monuments, and has a lofty tower. There is a charity school, where 80 boys are clothed and educated; and another for the instruction of 60 girls. The weekly market is held on Friday, and annual fairs on Easter Friday, 1st Friday in June, Aug. 5, Friday after old Michaelmas, and 2 following Fridays, and the 1st Friday in Dec.; they are for cattle, and both fairs and market are well attended. Its proximity to the Oxford Canal, as well as the railway, give it some business; but no particular manufactures are carried on, except that of bone lace by a few females, and the brewing of ale, noted for its excellence. The par. is divided into two townships, King's End, and Market End. In the latter the town is situated.

BIDACHE, a town of France, dép. Basses Pyrénées, cap. cant., on the Bidouze, 18 m. E. Bayonne. Pop. 2,706 in 1861. In the neighbourhood are good quarries.

BIDEFORD, a sea-port, bor., and par. of England, co. Devon, hund. Shebbear, on the Torridge, about $\frac{1}{2}$ m. above where it unites with the estuary of the Taw: 180 m. W. by S. London, on a branch of the Taw Vale railway. Pop. 5,742 in 1861, against 5,211 in 1841. The greater part of the town stands on an acclivity on the W. of the river, and is connected with its E. division by a stone bridge of 24 arches, built in the 14th century. It consists chiefly of two spacious streets: the houses, though improved, are, for the most part, but indifferent structures. Besides the church (in the earlier Gothic style), the Baptists, Independents, and Wesleyans, have chapels. There is a neat town-hall, and another hall, with a school, is attached, belonging to the trustees of the Bridge estate. Being a place of frequent resort from the neighbouring watering-town of Appledore, it has public assembly-rooms. The river is faced by a fine quay, 1,200 ft. in length, broad and convenient. It has an ancient endowed grammar-school, a national school for 300 chil-

dren, and a school supported by the dissenters. An endowed hospital maintains seven aged poor. Ropes, sails, and a considerable quantity of common earthenware, are manufactured; it has also a small lace manufactory, and several docks, in which the smaller class of vessels are built: in the vicinity are tan-yards. The port is within Barnstaple bar (see **BARNSTAPLE**), and is accessible for vessels of 200 tons as far as the bridge; about $\frac{1}{2}$ m. above which the Torrington Canal unites with the river. Ships of larger size unload at Appledore. Its principal imports consist of timber, from the Baltic and from Canada; coals, from Bristol and Wales; and groceries and other colonial produce, from Bristol and other ports. Its chief exports are sails, cordage, and articles of general supply, for the Newfoundland fisheries: oak bark, to Ireland; earthenware, to Wales; and corn and flour, to Bristol. There entered the port, in 1863, according to official returns, 823 vessels of a total tonnage of 35,645. Among them were 99 steamers, of 6,612 tons. There cleared, in the same year, 224 vessels, of 12,650 tons burden, including the same number of steamers. The port comprises those of Clovelly and Hartland in its jurisdiction. Its municipal affairs are managed by a mayor, three aldermen, and twelve councillors. Previously to the municipal act (5 & 6 W. IV. c. 76), it was governed by a charter of 16 James I., confirming and extending a previous one (16 Elizabeth). The corporation revenue does not exceed 50*l.* a year, derived from tenements in the borough: the quay dues belong to the lord of the manor, and are regulated by an act passed in 1828. Bideford is styled a borough in the Saxon records. It sent members to the H. of C. during the reigns of Edward I. and II., but grudging the expense which this occasioned, it got relieved from what was then deemed a heavy burden, and has been disfranchised ever since. In 1271 it obtained a market and fair. The expeditions under Raleigh and Grenville to Carolina, appear to have originated its foreign commerce. Silk weaving was introduced in 1650, and in 1685 many French refugees settled in it, and increased its trade. At the close of this century its Newfoundland trade had become extensive; and for the first half of the 18th century its imports of tobacco were only exceeded by those of London. Dr. Shebbear, of pamphleteering notoriety, was a native of Bideford.

BIDSCHÖW, or **BIDZOW**, a town of Bohemia, cap. circ., on the Cizdina, 16 m. W. Koniggratz. Pop. 5,123 in 1857. A variety of precious stones are found in the neighbourhood.

BIELEF, a town of Russia in Europe, gov. Toula, on the Oka, 56 m. SW. Toula. Pop. 7,650 in 1858. This ancient town is, after Toula, the most important in the government. The inhab. carry on a considerable commerce.

BIELEFELD, a town of Prussian Westphalia, cap. circ., 38 m. E. Munster on the railway from Düsseldorf to Hanover and Hamburg. Pop. 13,846 in 1861, exclusive of a garrison of 627. The town is one of the most thriving in Western Prussia, having more than doubled its population in the course of twenty years. It has excellent bleaching grounds and extensive manufactures of thread and linen. It is defended by a rampart and ditch; and, besides Catholic and Protestant churches, has a synagogue and an orphan asylum. It is celebrated for its tobacco pipes made of carbonated magnesia, and known in commerce by the name of *écume de mer*, or *meerscham*.

BIELGOROD (Russ. *Bjelgorod*), a town of European Russia, gov. Kursk, cap. district, on the Donitz, 80 m. S. Kursk. Pop. 8,190 in 1858.

It consists of an old and new town and three suburbs. Houses mostly of wood. Its name, *White town*, is derived from a chalk-hill in the neighbourhood.

BIELITZ, a town of the Austrian States, in Silesia, on the Riala, 16 m. ENE. Teschen. Pop. 8,740 in 1857. The town is well built, and is the seat of a Protestant consistory, which has under its jurisdiction Moravia and Austrian Silesia.

BIELLA, a town of Northern Italy, cap. prov. and mand., on the Cervo, partly on the summit and partly on the declivity of a mountain, 12 m. NE. Ivrea, on a branch line of the railway from Turin to Milan. Pop. 9,800 in 1858. The town is the seat of a bishopric; has four parish churches, two hospitals, and a college; and produces linens, silks, and paper.

BIELO OZERO, or **WHITE LAKE**, a lake of Russia in Europe, gov. Novgorod, about 240 m. E. Petersburg. It is of an elliptical shape, its greatest length being nearly 80, and its greatest breadth 20 m. Its bottom consists of a whitish clay, which, during tempestuous weather, communicates its colour to the water, whence, doubtless, its name is derived. It receives numerous small rivers; its surplus waters are carried off by the Chexna, an affluent of the Volga. It is deep, and generally limpid, and is well stocked with fish.

BIELOZERSK, a town of Russia in Europe, gov. Novgorod, S. side of the above lake, on a canal which, by means of the rivers Kowska and Schleska, unites the Baltic and the Caspian Sea. Pop. 4,831 in 1857. The town has a castle, or kreml, is fortified, and has some trade.

BIELSK, a town of European Russia, prov. Bialystok, 70 m. SSW. Grodno. Pop. 3,177 in 1857. The town is well built, paved, has a handsome custom-house, and gave its name to the palatinate of Bielsk, of which it was the cap. till 1795. This is one of the towns from which Jews are excluded.

BIENNE, or **BIEL**, a town of Switzerland, cant. Berne, in a fertile little plain at the E. foot of the Jura, near the lake of Biemme, and on the railway from Neuchâtel to Berne, 16 m. W. of the latter. The Suze flows through the town. Pop. 5,973 in 1860. The railway connects the place with all the important towns of Switzerland. It has a good gymnasium, with six professors. The public library, which was plundered in the revolution, contains at present only 2,500 volumes. Biemme is very ancient: previously to 1798, it was a free and independent city; but in that year it was united to France, and, in 1815, to the cant. of Berne.

The lake of Biemme extends along the Jura chain; being about 10 m. in length by 8 in breadth. It is not pre-eminent for beauty of scenery, and owes its celebrity principally to its having within it the isle of St. Peter, the retreat of Rousseau.

BIGGAR, a village of Scotland, co. Lanark, 27 m. SW. Edinburgh. Pop. 1,448 in 1861, of whom 667 males and 781 females. The barony of Biggar, in which the village is situated, has for centuries been the property of the Flemings, formerly Earls of Wigton, to which family the greater part of it still belongs. The place consists chiefly of one wide and spacious street. The chief employment of the inhabitants is cotton weaving for the Glasgow market. The parish church is a venerable Gothic edifice, built in 1560. There are also two dissenting chapels, a savings' bank, and three public subscription libraries.

BIGGLESWADE, a par. and town of England, Vol. I.

co. Bedford, hund. Biggleswade, 41 m. NNW. London on the Great Northern railway. Area of par. 4,220 acres; pop. of par. 4,681, of town 4,027 in 1861. The town is situated on the great North road, by the Ivel, over which there is a stone bridge. Houses chiefly brick, and have a neat, modern appearance. The church is a Gothic building, founded in 1230, and extensively repaired in 1832. There are two free schools, one for twelve, the other for eight boys: a charity, producing 800*l.* a year, supports them, and is applied also in various other specified modes. The river is navigable to the town, by which means, and the railway, it is supplied with coals, timber, and corn. The weekly market, on Wednesday, is one of the largest in England for corn. There are five annual fairs; Feb. 14, Saturday in Easter week, Whit-Monday, Aug. 2, and Nov. 8. There is a small manufacture of thread lace, employing some females, and a steam flour-mill. A petty sessions for the three neighbouring hundreds is held in the town.

BIJANAGUR (*Vijayanagara*, the city of triumph), **ANNAGOONDY** (Canarese), or **ALPATNA**, an anc. and celeb. city of Hindostan, prov. Bejapoor, occupying both banks of the Toombuddra; that part of it on the S.E. bank only being properly called Bijanagur, and belonging to the British dom., presid. Madras; 117 m. SSE. Bejapoor, 27 m. NW. Bellary; lat. 15° 14' N. long. 76° 37' E. It was formerly the metropolis of a kingdom, which, in 1515, comprised the two Carnatics, above and below the Ghauts, and is said to have then been 24 m. in circ.: this portion of the conjoined cities is now about 8 m. in circ., nearly uninhabited, and in ruins; these, however, are all of granite, and far excel in extent and grandeur those of any other Hindoo city. Bijanagur has a most remarkable site. 'It is built,' says Hamilton, 'in a plain, enclosed by and encumbered with stupendous masses of granite, which, in some places, swell up from the surface to the form and magnitude of hills, and in others present detached blocks of various forms, piled over one another in all sorts of fantastical combinations; occasionally surrounding little isolated valleys, and elsewhere obstructing all passage except through the narrow winding defiles which separate the fragments. The communications from street to street, and in some cases the streets also, follow the mazes of these chasms, and in one quarter the principal thoroughfare is under a naturally covered passage formed by the rocks; the ancient battlements, turrets, and gateways are still in a high state of preservation: the main streets paved with immense flags of granite, are intersected at intervals by aqueducts; and tanks and wells are excavated in the rock. Temples, choultries (hotels), and many other edifices, public and private, of the purest style of Hindoo architecture and great dimensions, are seen perched on the most conspicuous eminences of the naked rock, or ranged in long lines on the plain. . . . There is a continued succession of paved streets, now nearly uninhabited, for three miles, from the Toombuddra ferry to Humpa, at the W. extremity; and the appearance of the ruins about Camlappoor, on the SW., indicate that they also were once included within the city boundaries. . . . The walls, pillars, arches, and even the flat roofs and beams of all these structures are composed of granite. . . . Some blocks are from 12 to 15 feet broad, and thick in proportion; and though of unequal bulk and various shapes, are universally well cut, fitted to each other with the greatest nicety, and display at this day an exterior lustre surpassing that of most buildings of 20 years' standing.' The Toombuddra is about one-third of a mile broad, but at the upper

part of the city contracts greatly, and here there was once a stone bridge: its bed is clogged by detached granite rocks, which rise above its surface, and are generally surmounted by some religious edifice. It forms the N. and E. boundary of the city, which is enclosed S. and E. partly by its natural barriers, partly by strong stone walls. The chief edifices are—the temple of Wittoba (an incarnation of Vishnu), nearly in the centre of the city, which consists of one central and four subordinate buildings, surrounded by several smaller pagodas and numerous cells, and occupying an area 400 ft. long by 20 wide; this temple contains a chariot cut entirely out of granite, on which the image of the god is exposed on holidays: the temple of Mahadeva, at Humpa, with a pyramidal portico of 10 stories, and 160 ft. high, well endowed and attended by many Brahmins, faces a fine street 90 ft. wide, lined with handsome stone buildings decorated with sculptures, running nearly parallel to the Toombuddra, from which it is separated by rows of trees, and leading to another temple, where there is an image of the bull Nundy, 12 ft. high, carved out of the solid rock. Between Humpa and Camlappoor the rocks are studded with pagodas, the principal of which are the great temple of Krishna, and a smaller one dedicated to Ganesa, but which contains also a colossal granite image of the former, 16 ft. high by 10 ft. broad. The inner city near this is the residence of the rajah, and contains the remains of four different palaces. Bijanagur has a temple of Rama, with pillars of black hornblende, and amongst a group of temples near the ferry is a gigantic figure of Hanuman, carved in bas-relief. This city was built by two brothers, between A.D. 1836 and 1848: in 1864 it was taken and completely sacked by the Mohammedans.

BIJNEE, or KHUNTAGHAUT, a territory of British India, prov. Bengal. It lies on both sides the Brahmaputra, extending S. as far as the Garrows mountains, and consists chiefly of a level country, well fitted for the production of rice, especially that portion S. of the Brahmaputra, which is the most valuable, and besides wheat, produces barley, mustard, pulse, betel, sugar-cane, and mulberry-trees. The villages are generally neater than those in Bengal, and have sugar-cane and betel plantations. For a considerable period Bijnee was not known to be included in the Dewanny territories, but was considered to belong to Bootan; presents of elephants were, however, made yearly to both the Deb. rajah and the British government, and a kind of dependence on either or both of them, acknowledged by the Bijnee rajah. In 1785 the payment in elephants was commuted by the British government into a tribute of 2,000 rupees. The people are divided into two sections, the Bhakat, or worshippers of Krishna and the Gorami, who eat pork and other meats, and drink liquors.

BIJNEE, a town of Hindostan, cap. of the above rajahship, 23 m. N. Goalpara; lat. 26° 29', long. 90° 47' E. It contains a fort defended by a brick wall, the residence of the rajah, some small brick temples, and about 100 thatched huts.

BILBAO, a sea-port town of Spain, the ancient cap. of Biscay, in a fine plain, on the Nervion or Ibaizabal, about 10 m. above its confluence with the sea at Portugalete, and 45 m. W. of St. Sebastian. Pop. 17,649 in 1857. It is the terminus of two lines of railway, from Madrid, and from the French frontier. The town is said to be healthy, notwithstanding the climate is remarkable for humidity. Houses lofty, uniform, and well built, with projecting roofs, that afford shelter from the sun and rain. Streets well paved and

level; several of them may be washed at pleasure with water conveyed by an aqueduct from a mountain a league distant. No wheeled carriages are allowed to pass along the streets, but all goods are carried in panniers on mules, or in sledges, which have a contrivance by which they constantly moisten their path with water. There is a fine promenade by the river's side, over which a suspension-bridge is thrown in lieu of the old wooden one that formerly existed. There is also a stone bridge of three arches, and a handsome cemetery, formed by the corporation, at an expense of 80,000*l*. Convents and monasteries are here very conspicuous. They are immense piles, of little architectural beauty, having strong gratings to all the windows. Some of them are very rich; and a nun must take about 30,000 reals (800*l*) into the convent on admission. The *abatins*, or slaughter houses, in the Tuscan style, in the centre of the town, are well contrived, well ventilated, and copiously supplied with fresh water. The corporation is extremely rich. On the occasion of the visit of Ferdinand VII. no less than 2,000,000 reals, or about 20,000*l*., were expended in feasts, decorations, and bull-fights. Their funds arise from octrois, or tolls, upon the various necessities imported by sea or land, and the monopoly of the supply of beef, which is farmed to the butchers. They maintain an elementary school for teaching reading, writing, and Latin, by an impost of 4 reals per ton on foreign vessels entering the port. The Consulado, or Tribunal of Commerce, supports schools of drawing, architecture, mathematics, and the French and English languages, for the children of the town and neighbourhood. There is a hospital calculated to accommodate 250 patients. The bank of Bilbao, founded in 1857, with a capital of 100,000*l*., does a very extensive business, and circulates notes to the amount of treble its capital. The manufactures consist of various descriptions of hardware, anchors, leather, paper, hats, tobacco, and earthenware. There are several docks for building merchant vessels, and two large rope manufactories. Bilbao is the principal port for the N. of Spain. The exports principally consist of iron and steel, wool, fish, fruits, and sometimes large quantities of corn from the interior; but the trade of the port has declined ever since Saxon wools began to be preferred to those of Spain in foreign markets. The shipping in the two years 1859-60 is represented in the following figures:—

Year	Entered		Cleared	
	Ships	Tons	Ships	Tons
1859	466	33,347	436	27,517
1860	542	47,570	522	45,258

The value of the exports in the two years 1859-60 was as follows:—

Year	Wheat and Flour	General Exports	Total
	£	£	£
1859	5,839	21,652	27,491
1860	123,463	53,755	177,218

The total value of the imports in 1860 amounted to 839,747*l*., divided between the following countries:—

	£
Great Britain	345,180
Norway	229,597
France	110,816
Venezuela	106,912
Cuba and United States	36,396
Holland, Belgium, and Germany	10,897

The imports consist principally of cotton and woollen fabrics, and colonial products. Large vessels usually stop at Portugalete, near the mouth of the river, or at Olaviaga, about 4 m. below the town. Spring tides rise about 13 ft.; and by taking advantage of them, vessels of considerable burden occasionally reach the town. There is steam communication, by regular lines of steamers, between the port and London, Amsterdam, Liverpool, Barcelona, Bayonne, Seville, and Santander.

Bilbao was founded under a charter granted by a lord of Biscay, in 1300; from whom, and succeeding sovereigns, it obtained several privileges. The Consulado of Burgos was transferred thither at the end of the 15th century; and its decisions in matters of commerce were referred to throughout Spain, and regarded as of the highest authority out of it. It has been alternately occupied by the different victorious parties in the late civil war. (Introducción a la Geografía de la España; Report of Mr. Young, British Consul at Bilbao, in Consular Reports, 1862.)

BILEDULGERID, the name given to an extensive territory of Africa, embracing the country lying between the S. declivity of Atlas and the Sahara, or Great Desert; and between Fezzan on the E., and Cape Non, on the Atlantic, on the W. It mostly consists of vast deserts, differing but little from the Great Desert, with which it is connected. In parts, however, where there is water, extensive plantations of the date-palm, which here flourishes in great luxuriance, are met with. It is said by some that its real name, *Blaid-el-Jerid*, means country of the date-palm; while others, among whom is Shaw, interpret *Blaid-el-Jerid* as meaning dry or parched country. (Shaw's Travels, p. 4, 4to ed.)

BILLERICAY, a chapelry and hamlet of England, co. Essex, hund. Barnstable, par. Great Burstead, 24 m. ENE. London. Pop. 1,390 in 1861. The hamlet is on an eminence overlooking a rich vale, and commanding extensive views. Silk braid and laces are the only manufactures, and these are declining. There is a weekly market, Tues., and fairs, Aug. 2 and Oct. 9, for cattle. The parish church is about 2 m. from Billericay, but there is an episcopal chapel in the centre of the town, and three dissenting chapels; there is also a small school. Billericay is the central town of a poor union of 26 pars., and of a registrar's district of 15,081 inhab. About 1 m. from the church are some earth-works, called Blunt's Walls, where Roman remains have been dug up.

BILITON, a rocky sterile island of the Eastern Archipelago, between Sumatra and Borneo. It is of a circular form, about 50 m. in length and 45 in breadth. The population is very scanty, not being supposed to exceed 2,000 or 3,000. Iron ore, which in tropical countries is usually scarce, is found here in great abundance, and the metal produced from it is said to be of excellent quality. The produce of rice is not sufficient even for the consumption of the pop. The Dutch maintain a garrison in the island, and some cruisers on the surrounding seas, to check the piracy in which the natives are prone to indulge. The interior has not been explored. It is, however, believed to contain mines of tin.

BILLOM, a town of France, dép. Puy de Dôme, cap. cant., on a hill, 14 m. ESE. Clermont. Pop. 4,500 in 1861. This is one of the most ancient towns in Auvergne. The walls, by which it was formerly surrounded, have disappeared, and its manufactures and commerce have also declined. A university, founded here in 1455, continued to flourish till 1555, at which epoch it was made over to the Jesuits, by whom it was administered till the suppression of their order, when it also

ceased to exist. At present the town has a departmental college. During the period of the League, Billom was a principal focus of the disorders that agitated Auvergne. Storms are very frequent in this district; and, in consequence of the prevalence of rainy weather, the town has sometimes been called *l'égoût de la Basse Auvergne*.

BILSA, a town of Hindostan, prov. Malwa, belonging to Scindia, on the E. side of the Betwa, near its confluence with the Russ, 82 m. NE. Bhopaul. It is surrounded by a stone wall, and had, in 1820, 5,000 houses. The contiguous country is celebrated for the excellence of its tobacco.

BILSEN, a town of Belgium, prov. Limburg, cap. cant., on the Demer, 7 m. W. Maestricht, on the railway from Maestricht to Hasselt. Pop. 8,500 in 1856. It produces earthenware and cutlery.

BILSTON, a market town and chapelry of England, co. Stafford, N. div., hund. Seisdon, par. Wolverhampton, 2½ m. SE. Wolverhampton, 11 m. NW. Birmingham, and 107 m. NW. London. The population amounted to 20,181 in 1841, and had risen to 24,364 in 1861. The town stands on rising ground, and is very irregularly built. The principal streets contain some substantial and handsome houses, and, within the last few years, its appearance has been much improved; though, from the number of forges and collieries, it has a sombre aspect. On this account the country all around is usually designated the 'Black Country.' The principal buildings are—the parish church; St. Mary's, a fine structure, built in the Gothic style of architecture, in 1830; and the Rom. Cath. chapel, a handsome structure in the same style, erected in 1833. The gov. of the town is vested in two constables, appointed annually at the court leet held by the lord of the manor. Under the Reform Act, Bilston forms part of the borough of Wolverhampton, with which it is intimately connected; but for all parochial purposes, it is independent. Petty sessions are held on Tuesday in each week; and a court of requests, for the recovery of debts not exceeding 5*l.*, is held every second month, alternately with Willenhall. The living is a curacy, within the jurisdiction of the dean of Wolverhampton; the patronage is in the inhab. at large, every householder, whether male or female, being entitled to vote at the election of the minister. There are places of worship for Independents, Baptists, Primitive and Wesleyan Methodists, and Roman Catholics. There is a blue-coat school, founded and endowed by Humphrey Perry, Esq., of Stafford, for clothing and educating six boys; since extended to the admission of two or three more, by additional small bequests; two schools under the British or national system; and an 'Orphan Cholera School,' erected and endowed in 1833, for the instruction of 450 orphans, left destitute by the cholera, which prevailed in the previous year. This disease raged here with such desolating effect as nearly to clear entire streets of their inhabitants, and to oblige many large manufactories to stop working from the number of hands that fell victims to its violence.

Bilston, which, down to a comparatively recent period, was but an inconsiderable place, is wholly indebted for its growth and importance to the iron trade carried on in it and its immediate vicinity. Its advantages in this respect are not surpassed by those of any other place. Round the town are all but inexhaustible mines of coal and ironstone, the main bed of coal being 30 ft. thick, with strata of ironstone both above and below; and large supplies of the finest sand used in the casting of metals, are also found in the vicinity. Bilston has the farther advantage of being connected, by

numerous canals and river navigation, as well as by several lines of railway, with London, Liverpool, Bristol, Hull, and the chief towns of Great Britain. The importance of these improved means of communication may be judged of from the fact that, previously to the opening of the first canal in 1772, there was only one blast furnace for smelting iron at Bilston. Their subsequent increase has been quite extraordinary; and there are now great numbers of furnaces, forges, rolling and slitting mills, which, with the coal trade, furnish employment to a large population. The manufacture of japanned and enamelled goods is very extensively carried on in the town, of which it may be said to be the staple trade. In the neighbourhood is a remarkable quarry, the stones in which lie upon each other in 12 distinct layers, increasing in thickness from the surface, the lowest being about 3 ft. thick. This stone is used for various purposes, and is formed into grindstones, whetstones, millstones, and cisterns. At Bradley, a small adjoining village (in the W. div. of Cuttleshole hund.), a fire rises from a stratum of coal about 4 ft. thick and 80 ft. deep, which has been burning for above half a century, and has reduced several acres of land to a calx or cinder, used in the making of roads. This place formerly belonged to the portionists or prebendaries of Wolverhampton, and in their charter was called Bilaraton. It was a royal demesne at the time of the Conquest; and in the reign of Edward III., under the name of 'Billeslune', was certified to be free of toll. In 1824, an Act of Parliament was obtained for a market, now held on the Monday and Saturday of each week, independently of the toll-free markets, or fairs for cattle, which are held on Whit-Monday and the Monday next before Michaelmas-day.

BINCHE, a town of Belgium, prov. Hainault, cap. cant., on the Haine, 9 m. ESE. Mons. Pop. 6,500 in 1856. It produces earthenware and cutlery, and has tanneries, glass-works, and tile-works, with a considerable trade in lace, paper, and marble and coal procured in the vicinity.

BINDRABUND, a town of Hindostan, prov. Agra, on the Jumna, 35 m. NNW. Agra. The place is famous in the history of Krishna, to whom many temples are dedicated. The principal pagoda is one of the most elaborate and massive works of Brahminical architecture. There are also numerous sacred pools, where pilgrims perform ablution.

BINGEN, a town of the grand duchy of Hesse Darmstadt, prov. Rhine, cap. cant., at the confluence of the Nahe with the Rhine, 14 m. W. Mentz, on the railway from Mentz, or Mayence, to Cologne. Pop. 6,020 in 1861. The town has some manufactures, and a considerable trade in corn and wine. Near it is the Bingerloch, a rapid in the Rhine, which is dangerous when the water is low, and on the removal of which large sums have been at different times expended. Bingen is very ancient, having existed under the Romans.

BINGLEY, a market town of England, W. R. co. York, 178 m. NW. by N. London, 32 m. W. by S. York, near the Aire, on a branch line of the Great Northern railway. Pop. 5,288 in 1861. The town consists chiefly of one long street, tolerably built, and well supplied with water. All Saints Church is a neat edifice, in the later English style; the Baptists, Independents, and Methodists, have places of worship. A free grammar school was endowed by Henry VIII.; there is also a national school and some almshouses. The worsted, cotton, and paper manufactures are carried on, and there is some trade in malt, which is conveyed to other parts by rail, as well as by the Leeds and Liverpool canal, that passes by the town.

BIR, or **BEER** (an. *Birtha*), a town of Asiatic

Turkey, on the declivity of a steep hill, on the E. bank of the Euphrates, 75 m. NE. Aleppo, and 38 m. WSW. Orfa; lat. $36^{\circ} 59' N.$, long. $38^{\circ} 7' 15'' E.$ Pop. estimated at 5,000. It is surrounded on the land side by a well-built wall. Within the town, on a steep rock, is the citadel or castle, now in a state of dilapidation. It has several mosques, a public bath, and a caravansera. The rocks on which the town is built consist of chalk; and the houses being also formed of this material, its whiteness, during sunshine, powerfully affects the eyes, which are also injured by the dust that is blown about. Bir is the point at which travellers and caravans between Aleppo, on the one side, and Orfa, Diarbekr, &c., on the other, usually cross the Euphrates, which they do in boats of a peculiar description. It is also the nearest point on the Euphrates to Iskenderoun, and has latterly acquired considerable celebrity from its being the point at which Colonel Chesney has proposed to begin and terminate the navigation of the Euphrates by steam. (See *EUPHRATES*.)

BIRKENHEAD, a sea-port town of England, co. Chester, hund. Wirral, on the W. shore of the Mersey, 15 m. E. of Chester, and 199 m. NW. London by road, or 199½ m. by London and North Western railway, of which it is a terminal station. The pop., which was but 110 in 1801, increased to 2,569 in 1831; to 8,228 in 1841; to 37,513 in 1851; and to 51,649 in 1861. This extraordinary increase has taken place partly from the surplus pop. of Liverpool coming here to reside, and partly from the construction of docks for the accommodation of the shipping frequenting the Mersey. The Birkenhead docks were first projected, in 1827, by the late Mr. Wm. Laird. The corporation of Liverpool, in 1828, purchased the necessary land to prevent the scheme; notwithstanding which a bill was carried through parliament, in 1844, authorising the scheme, and by another act, passed in 1857, the docks on both sides of the Mersey were placed under the management of one trust, called the Mersey Docks and Harbour Board. The Birkenhead docks altogether consist of 160 acres of water space, including the Great Float of 120 acres, with a minimum depth of water of 22 ft. The total cost of these works has been upwards of 8,000,000*l.* There are several large manufactures on the margin of the Great Float, including the Canada Works of Messrs. Peto and Co., and Messrs. Logan and Todd Naylor and Co.'s extensive ore crushing works; and fronting the river, closely adjoining the docks, are ten private graving docks, four in the occupation of Messrs. John Laird, Sons, and Co., and six in that of Messrs. Clover and Royle, and the Woodside Graving Dock Company. Two of the docks at Messrs. Lairds' works are large enough to take in men-of-war of the first class, and at this establishment are employed between 2,000 and 3,000 men, in ship-building, engineering, and boiler making. The communication between Liverpool and Birkenhead, by means of steam ferry-boats, is extensive; so much so that, in fact, it may be considered as but a suburb of Liverpool. Birkenhead returns one member to the H. of C.: registered electors 3,589 in 1865. (For further details see *LIVERPOOL*.)

BIRMAH, or **THE BIRMAN EMPIRE**, an extensive country of India beyond the Ganges, formerly the most powerful state of that peninsula, and considerably larger than at present; extending between the lat. of 9° and $27^{\circ} N.$, upwards of 1,000 m. in length, and nearly 600 m. in breadth. At present it comprises the territory between lat. $15^{\circ} 45'$ and $27^{\circ} 22' 30'' N.$, and long. $92^{\circ} 43'$ and $99^{\circ} E.$; having W. the British prov. of Aracan, Chittagong, and Pegu; N. Upper Assam and

Tibet; E. the Chinese prov. of Yun-nan, Laos, the country of the indep. Shans, and the prov. of Martaban belonging to the British, and S. the kingdom of Siam and the British province of Pegu. Area, about 200,000 sq. m. Pop. estimated at 2,000,000.

Mountains and Rivers.—Birmah is enclosed E. and W. by two principal offsets from the Himalaya chain: in the N. and central parts of the country there are also many subordinate mountain ranges, running mostly parallel to the former, and like them decreasing gradually in height toward the S. From lat. 16° (Cape Negrais) to 28° N., the Anopetomoo, or Yoomadong mountains constitute the W. boundary. At the latter point of lat. this range is 200 m. in breadth, and from 2,000 to 5,000 ft. in height: in lat. 21° the elevation is considerably greater, but thenceforward it rapidly declines, and the breadth becomes so much less that, in 17° lat., it scarcely exceeds 20 m.; this chain terminates in a rocky promontory, bounding S.E. the Bay of Bengal. On the E. border a succession of ranges, inhabited by wild and half-subjected tribes, stretch from the Gulf of Martaban to the Chinese frontier. *Zingyet-Thoeng*, the highest point of the southernmost of these ranges, is no more than 3,000 ft. above the level of the sea; but between lat. 18° and 22° N. they rise much higher, and in the N. attain a very considerable elevation, the Phungan mountain in about 27° $15'$ N., and 97° $15'$ E., being 12,474 ft. high, and covered with perpetual snow. W. of the vale of Kubo, the Muring range now bounds the Birmanese and Munneepoor territories; and E. of these, four hill-ranges extend in parallel lines, for a long distance S., enclosing three extensive valleys of the Khyendwen, Moo, and Irrawadi rivers. Ranges running E. and W. are unfrequent, but there is one in 20° N. lat., about 50 m. S.E. of Ava; and a small range, the Galladzet hills, in about 18° $20'$ N., bounding N. the great plain of Pegu.

There are many plains, but none of them very extensive. The largest is the valley of Hukong, in the N., 50 m. long, and varying from 15 to 45 m. in breadth; bounded on all sides by hills, which probably, like that of Munneepoor, at one period formed the bed of an alpine lake. (*Asiat. Journ.*) Excepting these, there are few plains of any size; but numerous valleys, of the highest fertility and beauty, as Kubo, Bharno, and those of the larger rivers: these are chiefly in the S. and central parts of the country; in the N. they are mostly rocky defiles, or narrow steppes.

The principal rivers are the Irrawadi (*Euricatus*), with its affluents, the Ningthee, Moo, and Lung-tchuen; and the Than-Iweng, and Si-tang. The Irrawadi, an Asiatic river of the first class, rises in Tibet, and runs generally S. through a great part of the Birman empire, falling, after a course of 600 m., into the sea, by a great number of mouths in the British province of Pegu. The Than-Iweng, or Sauluen, is also a river of the first class, and rises in Tibet, beyond the sources of the Irrawadi: it descends in a nearly uniform S. direction in almost all its course, bounding the Birman empire E., and falls into the sea between Martaban and Moulmein in Siam.

The Si-tang rises from the Lake of Guanngrue, in lat. 20° $20'$ N., runs S., and disgorges itself, after a course of about 200 m., by a large mouth, but nearly useless as a harbour, or for navigation, because blocked up by an island and many dangerous shoals, with no more than a fathom water during the efflux of the tides, and not available for any vessels drawing 6 ft. water. This river communicates by cross branches with both the Irrawadi and Than-Iweng. The Ningthee rises in

the Patkoï chain, on the borders of Assam; and running in a S.W. direction, falls into the Irrawadi, opposite Yandabo, in 21° $40'$ N. lat., under the name of the Khyen-dwen. It is navigable for the largest class of boats as far as Kingnao, in 28° $45'$ N. lat.; almost all the streams which fall into it on the E. side are auriferous.

The largest lake is that of Kandangyee, or the Great Royal Lake, 25 m. N. Ava, which is 80 m. long, 8 or 9 m. broad, and traversed by the Moo river, a tributary of the Irrawadi.

Minerals.—The N. provinces are the richest in valuable minerals. Besides fine marble, serpentine, and nephrite, and amber mines are worked by the Chinese. Amber is found in large quantities in the valley of Hukong; gold to the value of 100,000*l.*, and silver to that of 120,000*l.* per annum; all the varieties of the sapphire, with spinelle rubies, are found in great abundance at about five days' journey E.S.E. from the capital, and are an important article of export; topazes, a few emeralds and diamonds, though of an inferior quality; iron, copper, tin, lead, antimony, arsenic, vitriol, sulphur, and nitre are found. Petroleum is obtained in large quantities on the Irrawadi, above Prome, near the frontier of the British province of Pegu. The wells, about 2 m. from the river, produce each a daily average of 150 gallons, which sells on the spot for about 1*s.* 8*d.* per cwt. The gross annual produce is about 80,000,000 lbs. It is used for lights and paving boats, and is said to have the valuable property of securing wood from the attacks of insects. Coal is met with in various spots. The government has a monopoly of gold, silver, and precious stones. (*Crawford's Journ.*, pp. 441, 442; *Pemberton*, pp. 13, 133-142; *Malcolm's Travels*, i. 169.)

The Climate is generally healthy, especially in the hilly tracts. The extremes of heat and cold are seldom experienced, except before the periodical rains. From Prome to lat. 26° or 27° N., there are three seasons; a cold, lasting from Nov. to Feb.; a hot, from March to June; and rain falling during the remaining months. Heavy mists occur in Nov. and Dec., but no snow falls; and only a light hail in April or the beginning of May. Earthquakes are not unfrequent, and often usher in and conclude the wet season. The transitions of the seasons are extremely sudden; the greatest heats are in March and April; the trees shed their leaves in May, but only to be immediately clothed with new ones. In June, July, and August, the inundations from the mountains raise the river at Ava to 32 ft. above its lowest level (Feb.); but all the waters are drained off again by Oct. (*Sangermano's Descr.*, pp. 164, 165; *Pemberton's Report*.)

Vegetable Products.—Sixteen thousand different species of plants, natives of the Birmanese dominions, were collected by Dr. Wallich, when he visited the empire in 1826: amongst them were the teak, saul, 7 kinds of oak, 2 kinds of walnut, 8 species of willow, a rose; the almost unique *Amherstia nobilis*, a magnificent species of *Leguminosa*, 20 ft. high, handfuls of whose fine deep scarlet flowers are offered by the natives before the images of Boodh; the *Hibiscus Lindlei*; many new genera of Orchideæ, Scitamineæ, and Liliaceæ. (Wallich's *Plantæ Siamenses*.) The teak-tree abounds in forests along the hills skirting the Irrawadi, and in the N. provinces, both on hills and in valleys; in lat. 23° $30'$ it approaches closely to the banks of the river. The most convenient and accessible forest in the country is that of Sarawadi, which furnishes nearly the whole of what is exported to foreign countries. The teak of Ava is said to be less durable than that of the coast of Malabar, but

it has been ascertained by experiment to be stronger than the last, and therefore fitter for machinery. In the vale of Kubo the saul and varnish-tree are most plentiful; bamboo grows to the circumference of 24 in. in the jungles, which contain whatever other underwoods are prevalent in India. The *mimosa catechu*, sugar-cane, indigo, and cotton-plant, are common; and the tea-plant, of a genuine character, besides inferior sorts, flourishes on the heights of the N. and central provinces. Every month produces some fresh fruit; the banana, cocoa, palm, pineapple, guava, jambo, and mango are abundant, but citrons, pomegranates, and oranges, are the only fruit shared in common with Europe. Pulse of all kinds, wheat, maize, millet, rice, and many pot-herbs, are usual articles of culture. Firs are rare, but junipers, rhododendron, and other European plants, grow on the upper region of Mount Phuyen and other considerable heights in the N.

Animals.—Elephants of three different varieties, the single-horned rhinoceros, wild boar, tiger, leopard, &c., inhabit the jungles; buffaloes, porcupine, civet and wild cats, and great numbers of apes, deer, and antelopes are found. Occasionally a white elephant is met with, which is much prized, and one is always kept as part of the royal establishment at Ava, where he is treated with great care and attention. There are no jackals or foxes, but dogs are numerous. Game is not so abundant as in Hindoetan; there is a small species of hare, but very inferior, and found only in the high lands. Snipes, quails, pigeons, our common fowl in the wild state, three species of peafowl, with one species of pheasant, are found; parrots, and other birds of rich plumage, are plentiful; the gyalin, in the Irrawadi, chameleon, many lizards and formidable serpents, as the *cobra-de-capello*, *cobra ceras*; tortoises, the mango-fish, sable, and many others; scorpions, spiders, and centipedes, leeches, which abound in dangerous numbers in the marshes, mosquitoes, and a very voracious ant, destructive to house furniture, are among the animals. (Crawford, pp. 454-457.)

People.—Several distinct tribes inhabit the Birman territories; viz. 1. the *Mramma* (Birmans), between 19° and 24° N. lat.; 2. *Talaia*, between the Than-lweng river and the Galladzet and Anopetomoo hills; 3. *Shans*, with more affinity to the Siamese than other races, and spreading over the E. and N. provinces; 4. *Cassayars*, chiefly in the capital; 5. *Khyens*, a rude people, scattered among the other population, but living in the mildest parts of the country; 6. the *Yô*, probably a Chinese tribe who have adopted Birman customs, residing between the latter and the Irrawadi; 7. *Karyens*, inhabiting an extensive hilly tract between the Than-lweng and Si-tang, good cultivators but unsubjected, and bearing great enmity to the Birman; 8. the *Zabaings*, Taong-su; the Khamti, Singphos, and other Tibetan or Tartar tribes in the N. Most of these nations, though differing in language and manners, are of the physical type common to all those situated between India and China. They differ from the nations of both these regions in certain particulars, and resemble more the Malays. The Birman are short and stout, but well proportioned, with coarse lank black hair, and an olive complexion; the women are fairer than the men, who have more beard generally than the Siamese; the physiognomy of both sexes is open, cheerful, and not unpleasing, and very few of them are in any way deformed. They are robust, active, inquisitive, not deficient in courage, and form a total contrast to their neighbours of Bengal in habits and disposition. They are lively and impatient; much addicted to theft and lying,

deceitful, servile, and proud; but at the same time courteous, benevolent, and religious. The foreigners consist of about 16,000 Siamese slaves; 1,000 Anamese, descendants of some who were formerly in a state of slavery; about 3,000 Chinese, chiefly from Yunnan, settled in the towns or working the mines; many Hindoos from Bengal; Mohammedans, and a few Europeans. Though fond of repose, when an inducement to exertion offers, the Birman exhibit not only great strength, but courage and perseverance, and often accomplish what we should think scarcely possible. But the mildness of the climate, the fertility of the soil, and the badness of the government, render these valuable qualities of little avail. In countries like Birman, the customary standard of competence is easily attained. The poorest classes obtain the necessaries which they require with comparatively little labour; and those who should go further, and attempt to make a display, or to improve their lands and houses, would expose themselves to extortion, and perhaps to personal danger. Sloth is, in consequence, the solace of the poor, and the principal enjoyment of the rich. (Crawford, pp. 371, 372, 465-470, &c.; Malcolm, i. 220, &c.)

Agriculture.—Excepting near the towns, most of the land is waste and unappropriated, unless occasionally by wandering tribes, who raise crops with little labour on the virgin soil. The cultivated lands are assigned, with their inhabitants, by the sovereign, in large districts to his various favourites, who are not unaptly entitled their 'eaters,' and who grind down the cultivators by the most oppressive exactions. The farms generally consist of only a few acres each; and agriculture, except, perhaps, among the Karyens, is in its rudest and most imperfect state. Rice is the chief article of produce, and forms the main food of the people; it is mostly grown in the S., where, although the plough is seldom used, and the soil only trodden by cattle, a single crop is said to yield 50 or 60 fold. In the N. provinces a plough, similar to that of India, is used, and the soil is afterwards pulverised by means of a wooden cylinder, and a rough harrow dragged over it: 2 or 3 crops a year are here obtained, but they are not so productive as the single crop of the lower provinces. Pulse of various kinds, Indian millet and maize, are grown in the N. prov., the latter yielding (but such statements are almost always exaggerated) 100 fold. Good wheat is grown in the neighbourhood of the capital, but it is little used for bread. *Sesamum* is universally cultivated for its oil and oil-cake, which is given to the cattle. Cotton (*Gossypium herbaceum*, Wallich) of a firm and silky texture, but of short staple, is grown in every part of the empire and of its dependencies, but principally in the upper provinces. Indigo is also generally grown, and is naturally of good quality; but the culture and manufacture of the plant are both so very rude, as to render the produce wholly unfit for exportation. The potato and pot-herbs of Europe are quite unknown; but yams, and a species of sweet potato, are, as well as tobacco, very general articles of culture in the N. There are no melons, cucumbers, or egg-plants; but the banana and tamarind are extensively grown; and in some tracts the number of fruit trees forms the basis of taxation. The sugarcane is cultivated, and the stalk eaten when ripe, the manufacture of sugar, except a very coarse sort, being unknown. An inferior kind of tea, with a large leaf, is grown on the hills, and eaten by the natives with garlic and onions, which are also produced there. (Capicum, next to salt, forms the chief condiment; from the highest to

the lowest, all season their rice with this plant, and its consumption is 'incredibly great;' betel-nut is raised for home consumption; and the piper betel is cultivated largely, and of excellent quality. In addition to rice, pumpkins, and pulse, *gnapee* and oil compose the main food of the peasantry. *Gnapee* is made of prawns, shrimps, or any cheap fish, pounded into a consistent mass, and frequently allowed to become partially putrid. It is known in commerce by the name of *Balachong*. Animal food being prohibited by the Buddhistical religion, is not generally eaten, excepting poultry or fish which have died a natural death, lizards, serpents, and iguanas, by the lower classes; or game by some individuals privately. Many of the hill tribes do not, however, regard the injunction, and kill bullocks and other cattle for food, or to sacrifice to their deities; many others also, by one means or other, evade the law of not spilling the blood of animals, or openly break it. The common beverage of the people is water; but spirits, though prohibited, are imported or distilled from rice, and toddy is made from the juice of the palmyra, date, or cocoa-tree.

Cows, buffaloes, goats, and a very few sheep, are kept; but neither for their flesh or milk. Oxen are used only for draught, and prevail chiefly in the upper country, the buffalo being more common in the lower. The Birman horse is not more than thirteen hands high, but strong, active, esteemed in the country, and used only for the saddle. The elephant is domesticated and used for carriage; the camel is altogether unknown. Hogs are plentiful, but commonly used only as scavengers.

Arts and Manufactures are in the most backward state. Ploughing, cleaning cotton, spinning, weaving, and dyeing, are operations mostly performed by women or captive Cassays: the loom used is like that of Bengal. Silk and cotton goods are woven, the former chiefly in the capital and the large towns in its vicinity, but are very inferior to those of India and China. The Khyens, however, though considerably less civilised than the Birmese, surpass them greatly in the manufacture of silk, and produce some superior crimson scarfs, embroidered with gold, and narrow shawls. The Khyen looms can only make fabrics one cubit, while those of the Birmese produce some two cubits in width. Printing on cotton is unknown; but dyeing with indigo and turmeric is practised; and the colours of the Birmese fabrics are much admired for their brilliancy: alum is the only mordant used. No fine linen is manufactured; and British goods of all qualities are commonly imported, and sold cheaper than any produced by the natives. Some coarse earthenware is made; but all the porcelain used is imported from China. The Birmese cast bells, and execute filagree in gold and silver respectably; but otherwise they do not work well in metals. Some rude cutlery and matchlocks are made at Ava; but their swords are chiefly bought from the Shans, and old muskets from the English; the latter fetch from 37s. to 50s. each, while new Birmese muskets are only considered worth 25s. Lacquered ware for trays and betel boxes is amongst their best manufactures. Their paper is of three sorts, one of which is made of bamboo fibres, covered over with a mixture of charcoal and rice-water, and written on with a piece of statite, as we do on a slate. Nearly all their manufactures are domestic. Excepting carpenters, smiths, masons, carvers, and gilders, who work for the palace, temples, and priests, there are but few public artisans, and these reside only in the larger cities. The common boats are mere canoes, decked with split bamboo,

and partly covered in with mats, with one bamboo for a mast and another for a yard.

Dwellings.—The ordinary houses consist wholly of bamboos and matting, badly thatched with leaves or grass, very soon built or removed, and in the lower situations raised 3 or 4 ft. from the ground on wooden posts; those of the priests are of a superior kind, and somewhat similar to those of the Chinese, or those of the Shans in the N. provinces, having a long roof rounded at the ends, matting walls, and being divided into several compartments. The ordinary beds of the people consist of merely a small mat laid on the ground. The temples are of different styles in different provinces; at Pagan they are heavy, broad, and surmounted by a small spire; in the southern provinces pyramidal, and adorned with many figures of griffins, sphinxes, and crocodiles. They are all much gilt and decorated, and often contain very solid masonry: many are, however, in ruins, since most of them are built and endowed by wealthy individuals, and it is deemed more meritorious to build a new than to repair an old one.

Commerce.—In the lower provinces the traffic is almost wholly by water conveyance; in other parts goods and passengers travel by carts or waggons drawn by oxen, or on the backs of these animals: the upper districts send to the lower petroleum, nitre, paper, lacquered wares, silks and cottons, cutlery and metal wares, palm-sugar, onions, tamarinds, &c., and receive from Rangoon, Tongho, and Bassein, which are the chief trading places, rice, salt, pickled and dried fish, and foreign commodities. The Shans export cottons, silks, ivory, bees' wax, stick-lac, varnish, lacquered wares, swords, and metals, to Ava, and take back salt and dried fish. The principal foreign trade is with China, and its chief seat the town of Bhamo, whither the Chinese caravans come and meet the Birmese and Mohammedan merchants; and from Dec. to April this town presents a most animated scene of active industry, and a greater variety of tribes than is, perhaps, found at any other fair in Asia. The principal articles of import from China are silk (to the amount of about 27,000 bundles, worth 81,000*l.* a year), copper, carpets, fur jackets, ornament, quicksilver, vermilion, verdigris, drugs, tea, fresh and dried fruits. The exports to China are chiefly raw cotton (averaging 14,000,000 lbs., and worth 228,000*l.* a year); feathers, ivory, wax, edible birds' nests, rhinoceros' and deer's horns, sapphires, and some British manufactures; chiefly broad cloths and carpets. The total value of the trade with China is variously estimated at from 400,000*l.* to 700,000*l.*

Measures and Coin.—The chief measure of capacity for rice is the basket=58½ lbs. avoird.; of length, the finger-breadth, hand-breadth, span, cubit (2 spans, or 19.1 Eng. inches), bamboo=28 cubits (14½ yds.), taing=7,000 cubits (2 m. 1 furl., nearly); the chief weights, the tical (nearly ½ oz. avoird.), viss=100 ticals, or 3 catties (8 lb. 2 oz.).

There is no coined money, excepting some of very base quality, and of lead, struck at Amara-pura; gold and silver ingots, of a tical weight, and various degrees of purity, form the rest of the currency. Gold is valued at about seventeen times the worth of silver, a tical of which latter, nearly pure, is worth 2s. 8½*d.*

Revenue and Taxation.—One-tenth part of the products of the cultivator, which is often taken in kind, and 10 per cent. on all imports, 5 per cent. on exports and on the petroleum collected; the monopoly of marble, amber, the precious metals, and gems above a certain size, of wrecks, and the property of certain foreigners dying in the country, all belong to the king. There is no direct land-

tax, but the people are assessed in proportion to their supposed means. Most of the provinces are considered the property of the royal family or principal court favourites; the king assesses each of his viceroys in a certain sum; these assess their subordinate district governors for a larger sum, and these again force still more out of the unhappy peasantry, who generally are made to pay double the sum originally demanded by the king. The gold and silver that thus reaches the royal treasury is never, except on urgent occasions, disbursed again; the only channels of its expenditure are in presents to favourites, gilding temples (for which most of the gold in the country is used), and making ornaments. The obligation to make presents to obtain favour or justice prevails universally, and from the top to the bottom of the social scale, there is one uniform system of extortion and rapacity, which has so completely crushed the spirit of the people, that, although few are in beggary, all fear to be rich, lest they should be marked out and impoverished by the harpies of the state. (Crawford's Journ., pp. 415-432.)

The Government is an hereditary and absolute despotism, the sovereign being 'lord of life and limb' over his subjects, who style him 'golden'; speak of informing the 'golden ear,' throwing themselves at the 'golden feet.' They approach him with their hands joined above their heads, and even make obeisance to the palace walls, before which all must dismount and take off their shoes. The sovereign is assisted by 4 woongees, or chief public ministers; 4 atween-woons, or private counsellors; 4 woon-docks, ministers of the interior; 4 state secretaries; 4 reporters; 4 officers, to regulate ceremonies, and 9 to read petitions. Their several ranks are determined by their dressers, coronets, and number of gold chains; the monarch himself only being privileged to wear 24. The whole nation is divided into the royal family, nobles, and commonalty, and none dare assume the dress of a superior grade. The Birmese have no farther distinctions of *caste*, as in India, nor any hereditary distinctions; although, in other respects, a kind of feudal system prevails; and the king can command the appearance of his nobles in the field, with their quota of vassals. (Hamilton's Gaz., pp. 48-50; Sangermano, p. 58; Wilson's Docum., Append., p. 38; Crawford, p. 491; Trant, pp. 247-268.)

Armed Force.—The Birmese are not, as a nation, a military people, but would make good soldiers under able officers. There is no regular system of conscription; every man is liable to serve; but no large force is ever disposable; and it is believed that the whole levies raised to oppose the British troops in the war of 1852, did not amount to more than 50,000 men. Excepting a small body of Cassay horse, and one of artillery, all are infantry, and armed with long spears, two-handed swords, old muskets, and the jinjal, a kind of carbine, carrying large balls, which, as they are good marksmen, is a formidable weapon, except in close combat. They are adepts at raising stockades, which they do wherever they take up a position; but these are not generally defended with much vigour. However, the great stockade of Rangoon, erected by the Birmese in January, 1852, withstood the operations of the British troops for nearly three months, and was captured with some loss on the 14th of April of the same year.

Jurisprudence.—Each large city has its judicial tribunal, and townships (*myo*) have each a governor, called *myo-su-gi*, who is assisted by inferior police officers, placed over the several wards: from the decisions of the *myo-su-gi*, there is appeal to the provincial governors, and from the latter to

a higher law officer in the capital. The code of laws is derived from the 'Institutes of Menú,' and contains many salutary regulations; but through a most corrupt administration, the aims of justice are frequently perverted, and the greatest tyranny is exercised. The slavery of a debtor, or his children, in discharge of a debt, is common; and females, in such a case, may be used as concubines. Trial by ordeal often takes place, and in criminal cases the punishments are marked by the greatest cruelty. The Birmese seem to have taxed their ingenuity to invent terrific and revolting modes of death. These they bear with an intrepidity or indifference common to all Asiatics: but owing to the extreme corruption of the Birmese officers, there are very few offences that may not be expiated, or their punishment materially alleviated, by a pecuniary sacrifice. (Crawford, pp. 413, 491, &c.; Sangermano, pp. 65-70; Wilson's Docum., Append., p. 44.)

Religion is Buddhism, believed to have been introduced by Gaudma, the chief deity, himself, in the 6th century B.C. This faith is universal here, except among foreigners; individuals who have been converted to Christianity; a few Zodi, believed by Sangermano to be Jews; and some hill tribes, as the Khyens, Karyens, and Cassays, in the lowest stage of idolatry. The priests, called Rhahaans, are much respected; they are bred up like monks to their calling from an early age, and observe celibacy, but may at any time renounce their vows and marry. They are voluntarily maintained by the population, and not suffered to engage in manual labour, their chief occupation being the instruction of youth. All foreigners are allowed the fullest exercise of their religion, and may build places of worship anywhere, and have their public festivals and processions without molestation. But, though thus tolerant to strangers, they are most intolerant to their own people. No Birman dare join any of these religions, under the severest penalties; and the most rigorous measures are adopted for suppressing all religious innovations.

Education is so far diffused that almost every male Birman can read and write; and this is the case with many of the females. The Khyens have no knowledge of books or reading, and hold medicine in contempt; the Birmans themselves are grossly ignorant of physic, and whether for fever or rheumatism, they shampoo the patient, treading him till he is in a profuse perspiration: any one may practise this profession. Diseases of the digestive organs, and of the skin, cholera, and leprosy, are the most frequent; inflammations are not generally acute, and wounds of a very severe character are said to heal with singular rapidity.

The Birmese are possessed of some knowledge of the heavenly bodies, and the signs of their zodiac are the same as ours: their year consists of 354 days, the errors in which computation they partially rectify every third year. They have 12 months, of 29 and 30 days alternately, and 7 days in the week, named from the planets, in the same order as ours. There are 70 hours between sunrise and sun-set, calculated at the capital by the successive filling of cups by dropping water; but as the length of the days changes, these cups must, of course, be also continually changed. Their common epoch begins from the year A.D. 638, making our year 1839 the Birmese year 1201.

Language.—The language spoken by the bulk of the people is the *Birmese*. Besides this, there is the *Pali*, or sacred language, which has a distinct written character. In the common *Birmese*, the letters are formed of circles and segments of circles, probably derived from the *Pali* alphabet. The

structure of the language is exceedingly simple. There is no inflection of any part of speech. Relation, number, mode, and time are all indicated by prefixing or affixing certain articles. The words follow each other in their natural order, an arrangement indispensably necessary to a dialect so artificial. (Crawford's Journ., p. 387.)

Dress and Social Habits.—That of the men is a covering from the loins reaching half-way down the leg; over this a frock with wide sleeves, tied all the way to the knee; on the head, a square handkerchief of English or Madras manufacture, or a turban of English book muslin. The women wear a somewhat similar dress, but shorter than that of the men; and the petticoat, being open in front, permits the thigh to be seen at every step; they wear no head-dress. The hair of both sexes is worn long, and tied in a knot on the top of the head; the men pluck out their beard; but the practice of blackening the teeth is not followed as it was formerly, and still is, by some neighbouring nations; sandals, but neither boots, shoes, nor stockings, are worn. The dress of the peasantry is mostly black; yellow is a sacred colour, and only used by the priests and upper classes; a quilted jacket is sometimes worn, and in the N.E. the Chinese costume is adopted. The court-dress of the nobility is handsome, consisting of a long robe of flowered satin or velvet, reaching to the ankles, with an open collar and loose sleeves, velvet caps with gold circlets, and many ornaments.

Chewing betel is common, and smoking universal, even with children. The Birmese eat twice a day, viz. early in the morning and in the evening; their food is served up on trays, in red lacquered plates and small cups; spoons are used, but not so much as fingers; knives and forks are unknown. The people are very superstitious, consult the stars, believe in fortunate or evil times, wear talismans, and practise alchemy. If any member of their small communities of four or five houses chance to die, the Khyens believe the evil spirit has taken possession of the place, break up their settlement, and remove to another spot; and, when an earthquake happens, shout and beat their houses, to expel the fiend.

Slavery, and especially the selling of women, is general; polygamy is allowed; marriage, although a mere civil contract, is universally respected, and the sovereign himself has no right to seize for his harem a married woman. Divorces are exceedingly common. Females are allowed as much liberty, usually, as males; they are engaged in all sorts of drudgery and continual occupation, yet infidelity among those who are married is rare, though chastity among the others is a virtue little practised or appreciated. To avoid, it is pretended, the seizure of their females, who have naturally some beauty, the Khyens have long adopted the custom of tattooing their countenances; a tattooing of their bodies in all kinds of figures also prevails amongst the Birmese. Corpses are either burned or buried; persons of rank are publicly laid out in state; and amongst all classes visits of condolence and presents are received by the survivors of deceased persons, and musicians attend to play before the body till the funeral, which is conducted with as much magnificence as the friends can afford. The funerals of priests are public festivals, and many accidents are caused by timber, and other heavy bodies that are fired up in the air on those occasions, falling on the crowd that has collected; the Khyens also treat deaths as matters of public rejoicing. Many curious customs prevail amongst the Birmese, such as the privilege that every one has to throw water over any others, of whatever rank, during the last three days of the year.

Boxing, cockfighting, foot-ball, throwing a quoit of bamboo, a few games of chance, chess, and dancing, are among the chief recreations. The Birmese are good mimics, and very fond of acting; their drama is by far the best among the Indo-Chinese nations. Their music possesses decided melody; they are much attached to it, and usually sing at their work. Their principal instruments are, a drum of bamboo or cane, covered with skin, a kind of hurdy-gurdy, oboe, and lute. In their dances they exhibit many contortions of the body. They have several epic and religious poems, besides some other literary productions.

History.—The earliest records go back to the year B.C. 543. The first kings are said to have come from Bahar, and fixed the seat of government at Prome, where it continued for 336 years. In A.D. 107 it was removed to Pagan (Pagahm Mew), where it remained for 12 centuries, and where are still to be seen extensive ruins, including many temples, and some relics of Hindoo worship. In 1322, the court was removed to Sa-kaing; in 1364, to Ava; in 1752, Alompra transferred it to his native place, Monchobo; one of his sons carried it back to Ava; another to Amarapura: from 1822 to 1837, Ava again became the capital, when the revolution that placed the Prince of Sarawadi on the throne, restored that honour to Monchobo.

In the 18th century the Birmese became the most powerful nation of the E. peninsula of Asia. Ava had been governed by the King of Pegu for some time previous to 1753, when Alompra, the founder of the present dynasty, expelled the Peguans from Ava and Prome, and in 1756 effected the conquest of Pegu. The Shan country was conquered by his son in 1768; Cassay in 1774; Aracan in 1788; in 1790, the Tenasserim provinces taken from the Siamese; and Assam conquered in 1823. Emboldened by these successes, the court of Ava entertained designs on the neighbouring British territories; our frontiers were subject to continual irruptions, and our ambassadors to all kinds of contempt and insolence; until, after a hostile invasion of Cachar, a state with which we were allied, and renewed outrages on our possessions in Chittagong, Sir A. Campbell was sent with an army up the Irrawadi. After a variety of engagements, in which the British were always successful, a treaty was concluded Feb. 24, 1826, at Yandabo, 50 m. from the capital, by which the provinces of Aracan, Yé, Tavoy, Mergul, and part of Martaban, were ceded to the British, together with 5,000,000 rupees to defray the expenses of the war; and the King of Ava ceased to have dominion over Assam, Jyntea, Cachar, and Cassay. In April, 1837, the Prince of Sarawadi, brother to the former king, seized the throne; put to death or otherwise disposed of the courtiers who had been opposed to him; and removed the seat of government from Ava to Monchobo.

Another dispute between the British government in India and the ruler of Birmah broke out towards the end of the year 1851. On the 29th of October, a British naval force arrived before Rangoon, and, after some delay, broke through the stockades, and forced the passage of the river Irrawadi. Martaban was stormed on the 5th of April, 1852, and the city of Rangoon on the 14th of April. On the 4th of June following, Pegu was captured, and on the 9th of July, Prome; and though both had to be evacuated soon after, they were recaptured in October and November. Finally, on the 20th of December, 1852, by a proclamation of the Governor-General of India, the province of Pegu, which formed part of the Birman empire, was annexed to the British possessions. The termination of the war with Birmah was proclaimed on the

20th of June, 1853, by the Governor-General of India.

BIRMAH (BRITISH). See INDIA.

BIRMINGHAM, a parl. bor., and the principal hardware manufacturing town of England, co. Warwick, at the NW. extremity of the co., and nearly in the centre of the kingdom 18 miles NW. Coventry; 57 NNW. Oxford; 69 SSE. Manchester; 102 NW. London by road, or 112½ m. by London and North Western railway, of which it is a principal station. The parl. bor., which includes the contiguous townships of Aston and Edgbaston, extends over an area of 18,780 acres, and had in 1801 a pop. of 73,670; in 1831, of 146,986; in 1841, of 182,922; in 1851, of 232,841; and in 1861, of 296,076, inhabiting 59,060 houses. Birmingham stands on undulating ground sloping down to the river Rea. The older portion of the town, in a low situation, exhibits some curious specimens of ancient domestic architecture. But the more modern part, on higher ground, especially the centre of the town, contains many magnificent and costly buildings, a great number of spacious and well laid out streets, with houses, principally of brick, though many of those more recently erected have stone fronts. At a distance the appearance of Birmingham is not prepossessing, from the immense number of tall chimneys belonging to its various factories, the smoke with which the atmosphere is loaded, and the dirty blackened colour of the buildings.

Among the public buildings may be specified the town-hall, modelled on the temple of Jupiter Stator at Rome. It consists of a rustic basement about 20 ft. in height, on which is raised a second story having 13 Corinthian columns on each side, and 8 in the principal front. It is built of brick faced with Anglesea marble, the columns being of the latter; length externally, 195 ft., width 102 ft., and height 88 ft.: the grand saloon, in which the musical festivals are held, is a noble apartment 140 ft. in length, 65 ft. in width, and 65 ft. in height, with a very powerful organ, and sitting room for about 4,000 visitors. The market hall is one of the finest of its kind in the U. Kingdom. Length 260 ft., breadth 108 ft., height 60 ft. The Free Grammar School referred to below is amongst the finest public buildings in Birmingham; and the public prison, the lunatic asylum, school of design, and general hospital, are all worthy of notice. The churches and chapels are particularly handsome; that of St. Philip, on the summit of the highest eminence in the town, is admired for its architectural beauty; the church of St. George, in the early English decorated style, has 1,400 free sittings; other notable churches are, St. Mary's, built in 1817; the Holy Trinity, Bordesley, and St. Peter's, nearly destroyed by fire in 1831, but since restored. The barracks, erected in 1793, at the NE. extremity of the town, cost 13,000*l*. The theatre, on the site of similar fabrics, burnt down in 1791 and 1820, is a handsome building, well suited to its purposes. The buildings connected with the railway station cover and enclose 20 acres of ground. There are some very superior hotels and shops. A bronze statue of Nelson, by Westmacott, stands nearly opposite the market-hall.

Birmingham is but newly incorporated, and previously to 1676 it was not even a market town. It was formerly governed by two constables, a head-borough, a high and low bailiff, with other inferior officers chosen annually at the court leet of the lord of the manor. Under its present charter of incorporation, granted in 1838, it is divided into 13 wards, and is governed by a mayor, a recorder, 16 aldermen, and 48 common-councilmen. The

charter constitutes the corporate body a court of record for the borough, to be held on Wednesday for the recovery of debts under 20*l*. A court of quarter sessions is, also, held in it; and it is the seat of a co. court. There is a board of officers, under a local act, for the administration of relief to the poor. The streets are all paved, drained, and lighted with gas.

Prior to 1751, Birmingham formed only one parish, and for all civil purposes is still so considered. In that year, however, a portion of the parish of St. Martin was formed into that of St. Philip; and in 1829 two other parishes were formed, viz. St. George and St. Thomas. The census returns of 1861 enumerate fourteen ecclesiastical divisions, the largest of which, St. Thomas, had 27,417 inhabitants, and the smallest, St. Peter, 4,856. A number of district and other churches have been built by the parliamentary commissioners with several chapels of ease. There are many places of worship for Protestant dissenters, Roman Catholics, Swedenborgians, Presbyterians, Unitarians, and other dissenting bodies. The Roman Catholic cathedral, built by Pugin, and consecrated in 1838, is a very large edifice, with palace and nunnery attached. There are numerous charitable institutions, both medical and educational. The General Hospital, Queen's Hospital, and General Dispensary are supported by voluntary contributions, legacies, and other donations. The cost of erecting the General Hospital exceeded 10,000*l*. It was begun in 1776, and completed in 1778; but in 1791 it was enlarged by the addition of wings: it is divided into 14 wards, and has 165 beds. Queen's Hospital, founded in 1840, was completed in 1847 at a cost of 8,746*l*. The General Dispensary, instituted for the medical assistance of poor, sick, and midwifery patients, at their own houses, was established in 1794. Besides these benevolent establishments, there is an institution for the relief of bodily deformity, an infirmary for diseases of the eye, a Magdalen asylum and several sets of almshouses, founded by W. Lench in the reign of Henry VIII.

The schools of Birmingham are exceedingly numerous. The twentieth report of the charity commissioners contains 114 closely printed folio pages, solely upon the charities of the town. The grammar-school was founded in 1552, 'for the education, institution, and instruction of boys and youths in grammar,' and endowed with the revenues of the ancient guild of the Holy Cross; which, with those arising from other sources, amount to from 8,000*l*. to 10,000*l*. a year. It has ten exhibitions of 50*l*. a year each. They are given for four years to the most distinguished scholars, and are open to any college in either university. The building attached to the school having become unseemly and dilapidated, the governors were empowered by an act of 1831 to expend 50,000*l*. upon a new and suitable school-house. Under the powers so given, Mr. Barry, the architect of the new houses of parliament, erected one of the most complete and extensive structures of its kind in the United Kingdom. The classical school is attended by about 240, and the commercial by about 300 boys. It has also five branch or subsidiary schools to which girls as well as boys are admitted. In the Blue-coat school (founded in the early part of the last century, and supported by voluntary contributions, rents of lands, and funded stock), about 800 children of both sexes are taught writing, reading, sewing, and other useful arts. The other principal schools are—the Birmingham and Edgbaston Proprietary School; various National Schools; the Protestant Dissenters' Girls' Charity-school, the Royal Lancasterian,

the Female Lancastrian, and Madras School, on the principles of Dr. Bell's system, and St. Philip's Industrial School. There are also infant, ragged, and Sunday schools; a school for deaf and dumb; a college for the education of young men, established by the Independents; a philosophical institution; an atheneum, for the diffusion of literature and science; a society of arts; and a mechanics' institute. An important institution, called Queen's College, established by subscription, was incorporated by royal charter in 1843. It furnishes complete courses of academical instruction in languages; natural, moral, and political philosophy; medicine; civil-engineering; law, and theology. It occupies a handsome building opposite the town-hall; and has accommodation for seventy resident students, with museums, and libraries. Birmingham has two public libraries. The old library, a neat structure, has about 700 subscribers; and a collection of books comprising upwards of 35,000 volumes. The new library is a smaller building, containing about 10,000 volumes.

Though so distinguished by its population, industry, and wealth, Birmingham did not, till after the passing of the Reform Act, enjoy the privilege of sending representatives to the H. of C. But the statute referred to put an end to this anomaly, and conferred on it the right to send 2 mems. to parliament. The parl. bor. comprises a considerable extent of country, including the parishes of Birmingham and Edgbaston, with the hamlets of Deritend and Bordesley and Duddleston cum Nechills. Parl. const. in 11,330 in 1861, being all 104 householders. Annual value of property assessed to the poor rate, 988,563*l.* in 1861. The amount assessed to property tax averages 1,300,000*l.* The gross annual value of real property, including railways and canals, assessed to income tax under Schedule (A) amounted to 1,108,634*l.* in 1857, and to 1,279,787*l.* in 1862.

Manufactures.—As a place of manufacture Birmingham has long held an important position, and has never been surpassed in the production of articles of ingenuity and utility: most articles in gold, silver, iron, copper, brass, steel, mixed metals, and glass, are produced here, from the most trifling trinket to the most ponderous and powerful machine. Of the early history of its manufactures we know nothing certain. It is supposed, and with great probability, to have been the place where the arms with which the early inhabitants defended their shores from the invaders under Julius Cæsar were manufactured: a supposition favoured by the fact of moulds for spear, arrow, and axe heads having been found either in the neighbourhood, or at no great distance from it, added to the proof afforded by the enormous mountain of calx or cinder which borders on the parish of Aston, and with regard to which Hutton (Hist. Birmingham) remarks, 'From an attentive survey the observer would suppose so prodigious a heap could not accumulate in a hundred generations; however, it shows no perceptible addition in the age of man.' So far back as the 12th century it was noted for the tanning of leather; but this branch of trade gradually subsided, until at length it became all but extinct under the advance of other and more extensive enterprises, so that in 1795 there was but one person who followed that ancient occupation. Leland, in his 'Itinerary' (1540), describes the town as a place inhabited by 'smiths that used to make knives and all manners of cutting tools, lorimers that make bittes, and a great many nailours.' Previously to the revolution (1668) the articles chiefly manufactured were

heavy iron goods, whereas the principal existing manufacture of Birmingham is hardware. The great growth of this trade may be dated from about 1740, at which epoch the quantity of pig iron made in England and Wales amounted to only about 17,000 tons, whereas it has since increased to at least 1,200,000 tons. The growth of Birmingham to its present height of opulence, celebrity and magnitude, is principally ascribable to the invaluable resources of iron, stone, and coal, with which the district abounds, aided by the improvements which have progressively been effected in the means of transit, and in some degree also by its freedom from corporation restraints. The manufacture of the larger description of articles is carried on with increasing vigour and efficiency. Most sorts of cast-iron articles are made; and the largest manufactory for steam engines in the world was established at Soho, in the immediate vicinity of the town, though in the co. of Stafford, by Boulton, the partner of James Watt, the great improver of the steam engine. These works consist of 4 squares, with connecting links of shops. They are not, however, restricted to the manufacture of those gigantic 'steam-labourers,' but also produce immense quantities of vases, candelabras, and other descriptions of goods in bronze, and or-molu, of exquisite workmanship, with articles of plate and Birmingham ware generally. At these works, too, the principal part of the copper coinage of the country was wont to be executed. There are many iron and brass foundries in the neighbourhood, and there are metallic hot-house manufactories. Casting, modelling, die-sinking, engraving, staining and cutting glass, and many other branches of manufacture, have been brought to great perfection. There are no means of stating the total value of the articles produced, inasmuch as the manufacture of plated goods, which is carried on in Sheffield and Birmingham, is one of those branches of industry the progress of which we have no means of ascertaining. It appears, however, that the exports of hardware from England, principally from these two towns, have risen from less than a million to close upon four millions sterling in the course of 20 years. The returns of the Board of Trade give the exports specified as 'hardwares and cutlery,' as of the value of 3,809,255*l.* in 1859; of 3,770,609*l.* in 1860; 3,425,610*l.* in 1861; 3,310,342*l.* in 1862; and of the value of 3,833,149*l.* in 1863. The value of the material, it is to be observed, in most of the Birmingham goods, bears a very small proportion to that of the labour expended upon them; as, for example, in the article of watch-springs, where the value of the raw material is not a 200,000th part of the value of the finished article. It is from the extreme subdivision of employment that the superior skill of the workmen and the excellence of the manufacture is mainly deducible. Of the present manufactures, that of muskets is the most ancient, having been introduced in the reign of William III. Since that epoch this branch has been gradually, but greatly, augmenting; and of late years the manufacture of fowling-pieces has been added to it. Until the close of the great war with France, the government contract for muskets extended, upon an average, to 30,000 per month. On the cessation of hostilities, this department seriously declined; but it is still of great value and importance. In 1813 an act of parliament was passed, requiring the gun-makers to raise a proof-house; in which, under a heavy penalty, all fire-arms, after being subjected to a severe test, are stamped by the masters and wardens, under whose inspection the business is

conducted. Swords also are a principal article of manufacture. In the above statistics of exports of 'hardwares and cutlery,' arms and ammunition are not included. The value of these exports is above two millions sterling per annum. The exports of 'small fire-arms' were of the value of 168,297*l.* in 1859; 358,847*l.* in 1860; 515,361*l.* in 1861; 1,573,706*l.* in 1862; and 856,009*l.* in 1868. It will be seen that the foreign demand for these articles is very fluctuating. The metal button and buckle trades were introduced into Birmingham shortly after the revolution, and continued to flourish for nearly a century. But these trades have been greatly impaired; partly in consequence of the emigration of artisans to the Continent, who carried with them a knowledge of the art, and partly, and principally, from changes of fashion. The button manufacture is still, however, extensive. The manufacture of Florentine buttons has also been introduced, and is now extensively carried on. The decline of the buckle manufacture may be dated from 1781, at which period shoe-ties began generally to be worn; and notwithstanding the efforts of George IV., when Prince of Wales, to stem the tide of fashion, it proved too strong for him, and the manufacture was gradually, but completely, destroyed. The file-trade, which at one time flourished in Birmingham, has nearly all gone to Sheffield, in consequence of the superior advantages possessed by the latter for that manufacture; while, on the other hand, and from a similar cause, much of the plated trade of Sheffield has migrated to Birmingham. The making of silver pencil-cases is carried on to a great extent, and the number produced is increasing every year. The manufacture of goods in brass, or brass-founding, introduced about 1748, has been greatly extended and improved within the present century, and comprises a large number of articles, both useful and ornamental; including, among others, lamps, chandeliers, candlesticks, vases, fenders, fire-screens, handles for locks, doors, knockers, and many other articles. It may, perhaps, be now reckoned the staple trade of the town. Of lamps and chandeliers, Birmingham has almost the exclusive manufacture. In 1772, in consequence of the great amount of her plated manufactures, an act of parliament was passed, appointing wardens and an assay master. The quantity of silver plate made is comparatively small. Like silver, gold is extensively used in gilding the various articles before enumerated. Indeed, to such a pitch had the art of gilding been carried as early as the year 1818, that, according to Hutton, three pennyworth of gold was sufficient to cover a gross of buttons. There is a considerable trade, too, in the manufacture of pins, and a still larger one in the manufacture of steel pens. The exact period when pens made of steel began to be substituted for quills is not known; but down to 1818, the manufacture was confined within very narrow limits. Since then, however, the quality of the pens has been vastly improved, and their price very greatly reduced, and the demand has in consequence been extended in a degree not easily to be imagined. It is stated that above 500,000,000 pens are annually manufactured in Birmingham. The art of making nails by hand still keeps its ground; those so made being considered superior to those made by steam power. Japanned articles, of great beauty and variety, are extensively manufactured. The best trays, baskets, and other articles of similar description, are made of *papier maché*, the manufacture of which is very largely carried on. The glass trade is also very extensive.

Mr. Burke said that Birmingham was the 'toy-

shop of Europe,' and the statement seems to be perfectly well founded. An immense quantity of very beautiful articles, as seals, brooches, clasps, and other trinkets, are made of gold, silver, gilt and plated metal, and polished steel. This trade, which has not existed more than fifty or sixty years, has greatly increased within the last thirty years. The toy and trinket trade is astonishingly great; and the transactions are often immense, in articles of comparative insignificance.

The manufacturing district, of which Birmingham is the centre, includes a considerable tract to the NW. of the town, embracing the southern part of Staffordshire, with the extreme northern border of Worcestershire and a detached part of Salop. Within this district are the populous towns of Dudley, Wolverhampton, Bilston, Walsall, Wednesbury, and Stourbridge. Independently of the production of the crude material, in which most of these towns are extensively engaged, different branches of the hardware manufacture are carried on in them, as the nail and japan-ware trade, bridles, and stirrup plating, coach and harness ornament making, and saddlers' ironmongery. The japan-ware is mostly confined to Bilston and Wolverhampton, as is the lock trade to the latter, and the saddlers' ironmongery to Walsall, Wolverhampton, and Wednesbury. But all these departments are carried on in Birmingham, though not to so great an extent as in these separate places. The inhabitants are distinguished by industry, ingenuity, and invention. The mode of conducting business in Birmingham has undergone a considerable change from what it formerly was. There are now but few large capitalists. With the exception of the Soho works, and a few other large manufactories, the business is conducted on a small scale in innumerable divisions. The system generally acted upon is as follows:—The workmen, each in their particular line, undertake to execute the orders received by the merchants and agents settled in the town, which they accomplish by the following means: A building, containing a great number of rooms of different sizes, is furnished with a steam-engine. These rooms or shops being all supplied with shafts, lathes, benches, and such other necessary conveniences as are requisite for the work to be done; and when an order is given to one of these workmen to execute, he hires such one or more of these rooms as the occasion requires, and stipulates for a certain amount of steam-power, and continues the occupant of this apartment till the order be finished. (Porter, on the Progress of the Nation.) In 1786 there was only one steam-engine at work, which was of 25 horse-power, and was used for grinding flour. In 1803, there were ten engines, producing 379 horse-power, of which 260 horse-power was used in manufactures. In 1823, the number of engines was 66, the horse-power 1,222. In 1835, the number of engines was 169, and the horse-power 2,700; of which 275 were used in grinding flour, 1,770 in working metals, 279 in pumping water, 87 in glass grinding, 97 in working wood, 44 in paper-making, 37 in grinding clay, 61 in grinding colours, and 50 in sundry other occupations. In 1849, the steam power employed in the town was estimated as equal to 5,400 horses, and, in 1863, equal to 11,500 horses. Women are extensively employed in polishing the goods in the glass toy branch, and in all parts of the manufactures of the town except brass-founding. Boys are principally engaged by the out-workmen and undertakers, as apprentices; and receive a progressive amount of wages, varying from 8*s.* to 10*s.* per week, according to their ages and occupations;

they get their food at home, and in some instances work in the houses of their parents. Some of the small manufacturers have accumulated large fortunes. The condition of the workpeople is, on the whole, favourable. It is impossible to give an average of the wages paid in different trades, they are so very various; for instance, in the making of buttons, a great number of hands are employed—as, the piercer, the cutter, the stamper, the gilder, and the burnisher—who all receive different wages; and so also in the other departments.

The town possesses five large joint-stock banks, with numerous bodies of proprietors. They issue notes of the Bank of England, which has a branch in the town.

Birmingham is of great antiquity. In Domesday-book, in which occurs the first authentic notice of the place, it is spelt *Bermengeham*. Its history, previously to the Norman conquest, is extremely obscure. Indeed, until the time of Charles I., little is recorded of it, and that little of scarcely any interest. In the reign of that monarch it took the side of the Parliament, and warmly defended the cause it espoused. In 1665 or 1666, the plague committed frightful ravages. In 1791, high church and Tory politics seem to have been very prevalent; and a riot having arisen out of a festival in commemoration of the French revolution, much property was destroyed, including the houses and libraries of the celebrated, but then obnoxious, Dr. Priestley, and of Mr. Hutton, the historian. The loss on this occasion, amounting to 60,000*l.*, was partially made good to the sufferers by Act of Parl. The great increase of prosperity of the town commenced, about forty years ago, with the establishment of the modern railway system. The London and Birmingham Railway, now one of the most important lines in the kingdom, was built by a company incorporated in 1833. It was opened throughout Sept. 20, 1838. The next line constructed was the Grand Junction Railway, meeting the Liverpool-Manchester line at Warrington, after which the railway from Birmingham to Manchester came to be built. The latter was opened throughout in August, 1842. Birmingham is now become a grand centre of railway travelling. It communicates with the metropolis by the Great North-Western line in from 3 to 4½ hours, and by the Great Western—distance 129 miles—in about the same time; as also with Dublin in from 10¼ to 18 hours, and with Edinburgh and Glasgow in from 9 to 10½ hours. Markets on Mondays, Thursdays, and Saturdays, and fairs on the Thursday in Whitsun-week, and on the Thursday next before Michaelmas-day, for cattle, sheep, horses, and hardware generally. Notwithstanding the smoke of its innumerable furnaces and forges, Birmingham, owing, perhaps, to the dry sandy soil on which it stands, is eminently salubrious. The deaths, in proportion to the number of the inhabitants, are fewer than in Liverpool or Manchester. The botanical gardens in the vicinity, supported by public subscription, cover a space of 14 acres, and are extremely well laid out. The most celebrated seats in the vicinity are Hagley, the seat of Lord Lyttleton, 12 miles distant; Enville, the seat of the Earl of Stamford, 18; and the Leasowes, the creation of Shenstone, 6 miles distant.

BISACCIA, a town of Southern Italy, prov. Avellino, on a hill, 12 m. NE. St. Angelo de' Lombardi. Pop. 6,540 in 1861. It has several churches and an hospital, and is supposed to occupy the site of the ancient *Romulea*, mentioned by Livy (lib. x. cap. 17). The bishopric, of which Bisaccia was formerly the seat, has been united to that of St. Angelo de' Lombardi.

BISCARI, a town of Southern Italy, island of Sicily, prov. Syracuse, 10 m. NW. Modica. The population is declining. There were about 8,000 inhabitants at the beginning of the century; 2,447 in 1831, and 1,945 in 1857. The town is of modern date, having been founded in the 15th century.

BISCAY, a district in the N. of Spain, comprising Biscay Proper, Guipuzcoa, and Alava, the three Basque provinces, called by the Spaniards *Pais Vascongadas*, being part of the Roman provs. of Vasconia and Cantabria. These provs. extend from 1° 46' to 3° 20' W. long., and from 42° 25' to 43° 27' N. lat., having E. France and Navarre; W. and S. Burgos, and other parts of Old Castile; and on the N. the Bay of Biscay. Their mean length is about 60 m., and their breadth about 50 m. Area, 2,971 Engl. sq. m. The country may be considered as a prolongation of the declivity of the Pyrenees to the boundaries of Castile. It is broken into highly picturesque glens and valleys, interspersed with some fertile plains. The district has marble of various colours, lime and sandstone, a profusion of iron ore, and some copper and gypsum of good quality, as well as salt-mines, and saline and sulphurous cold and hot springs.

The subjoined table shows the area of each of the three provinces, together with the population, according to the census of 1846, and of May 1857:—

Provinces	Area in sq. m.	Pop. 1846	Pop. 1857
Alva . .	1,082	67,523	96,398
Biscay . .	1,267	111,436	160,679
Guipuzcoa	622	104,491	150,493
Total	2,971	283,450	313,470

The largest of these three provinces, Biscay Proper, or the lordship of Biscay, has on the N. the ocean; on the E. Guipuzcoa; on the S. Alava and Old Castile; and on the W. also Old Castile. Under the new division of Spain, made by the Cortes in 1822, it forms part of the province of Bilbao. The city and territory of Orduña, which are insulated by Alava and Old Castile, belong to it. Bilbao is the seat of government; and there are also Durango, Guernica, Balmaseda, and a few other small towns. Some of the mountains look as if they consisted of a congeries of hills heaped on each other. Gorvega is of this description: it has, on its summit, a considerable extent of level land. Principal rivers, Nerva, Ansa or Ibaizabal, Cadagua, Mundaca, and Lequeitio. The coast is abrupt, and deeply indented by bays formed by the mouths of the rivers, and by a number of small harbours. The iron mines, which are frequent, and produce some of the best metal in Europe, particularly that at Somorrostro, the ore of which yields above a third part of iron. According to Antillon, the annual produce of this mine used to be 800,000 quintals. Climate humid, but not insalubrious. Houses good, and conveniently built; the upper parts, which were anciently of wood, are now of stone. There are many very ancient châteaux, mostly flanked with strong towers, that belong to the heads of families. With the exception of the towns named above, and a few others, the inhab. live dispersed in *caserios* of five or six houses each, with lands attached, which are mostly cultivated by the owners, in whose families they have remained for centuries, it being reckoned discreditable to part with the paternal property. Where land is hired, the rent, which is paid in money, usually amounts to about a third part of the value of the produce. The soil is mostly a stiff clay, and would produce little but pasturage or wood, were it not for the patient industry of the

inhabitants, who break it up with a curiously shaped implement called a *laga*; but in lighter soils, where wheat only is grown, they use a strong plough. As arable land is scarce, they break up patches on the slopes of the mountains, where the ground, not being deep enough for the growth of large trees, is covered with thick shrubs. These they grub up and burn, and spreading out the ashes, get fertile crops of wheat the first three years; barley, or rye, the fourth; flax, the fifth; and good pasture till the ground be again overgrown by brambles. They do not, however, notwithstanding their industry, reap grain enough for their consumption, but supply the deficiency by importations from Alava. Next to agriculture, the chief employment of the peasantry is in the making of charcoal for the iron foundries, from the wood cut in the forests, with which the sides of the mountains are covered. These contain plantations of excellent white oak, and in the glens and valleys are numerous groves of grafted chestnuts, which furnish a considerable article of export. The grapes are not good: there is a great profusion of apples, with pears, cherries, figs, &c. Cattle small and hardy; sheep difficult to rear, from their getting entangled in the brambles; the wild boar is occasionally seen, as are wolves and bears; though both are very rare, especially the last. Fish abundant and excellent.

The staple business of Biscay Proper, and the other two provs., is the manufacture of iron, which is made into a great variety of tools and implements; but owing to the suspension of work in the royal arsenals, the loss of the American colonies, and the introduction of foreign iron, as well as the long wars of which this country has been the theatre, this important branch of industry has greatly fallen off. The Spanish Academy of History say that, in 1802, when their account of Biscay was compiled, there were 180 iron works, producing annually 80,000 quintals of iron, of 155 lbs. each, which, when Miñano wrote (1826), were reduced to 117 works, yielding only 45,000 quintals. Copper boilers were also made at Balmaseda, and factories for cordage and rigging, made of hemp brought from Aragon and Navarre, were established in various parts; and tanneries at Balmaseda and Bilbao; but these, also, are much fallen off. The other manufactures are those of coarse porcelain, table and other household linen, fine and coarse hats, braziers, carpentry and joiners' and cabinet work, straw and rush chairs, tallow candles, &c. The people near the coast occupy themselves a good deal in fishing, and the exports of dried fish are sometimes very considerable. (*Diccionario por la Real Academia*, ii. 487; Miñano, x. 41-44.)

The second largest of the three Basque provinces, Guipuzcoa, has the seignory of Biscay on the W.; Alava on the S.; Navarre and the Bidasoa, which separates it from France, on the E.; and the Bay of Biscay on the N. Since 1822 it has been called the prov. of St. Sebastian. The country is rough and mountainous. The highest mountain on the frontiers of Alava rises 1,800 ft. above the sea, and contains some salt mines and saline springs. The prov. is watered by the Deva, Urola, Oria, &c., and the Bidasoa, which all run N. into the Bay of Biscay. The coast is rocky, and the ports insecure, with bars at their entrances, except Passages, which has deep water, and is spacious and well fortified. At Mondragon, on the Deva, is a celebrated iron mine; the ore yields no less than 40 per cent. of metal. At Vergara is a college, where the young nobility are educated, and other useful institutions. On the N. of this, at Placencia, is a royal manufactory of fire-arms.

Guipuzcoa yields to no part of Spain in the magnificence of its ecclesiastical and other buildings. The roads are well paved, and kept in good repair; the inns commodious, and well conducted. Climate soft and temperate; but, like the other provs., it is subject to heavy rains and violent storms, both in summer and winter. The prov. produces most kinds of grain and other necessaries, but not in nearly sufficient quantities for the support of its inhab. Fruits and other natural products nearly the same as in Biscay. The fish, including salmon, are excellent; and tunny, rays, and sardines, are supplied to the neighbouring provs. The grapes, though indifferent, furnish the light wine called *chacoli*. A good deal of cider is also produced. The growth of timber in the woods and plantations is not equal to the consumption of the iron works. Agriculture nearly the same as in Biscay.

Iron may be had in any quantity. According to Antillon (*Géographie Physique*, p. 85), 100,000 quintals used to be annually wrought up into hinges, nails, horse-shoes, boilers, kitchen utensils, arms, anchors, working tools, &c. They make, also, fishing tackle, rigging, tanned leather, coarse cloths of goats' hair, coarse linen and sail-cloth. Ship-building has lost its activity, but some vessels are fitted out for the cod and whale fisheries.

Guipuzcoa imports what grain it wants from Alava; wine, from Navarre and Rioja; soap, oil, flax, &c., from Castile and Andalusia, woollens, cottons, cloths, silks, jewellery, and articles of fashion, from England, Holland, and France. It exports little native produce but iron, hardware, and fruits; but wool, and sometimes corn, are brought from the interior to its port for shipment. Formerly, it had a considerable coasting trade to the shores of the Mediterranean, and a large share of the whale fishery and the cod fishery at Newfoundland. The famous Caracas Company originated here. Its commerce has fallen off since 1809. Being a frontier prov., it admits the royal troops to garrison its strong posts. (*Diccionario por la Academia*, i. 821; Miñano, iv.; Antillon, p. 85.)

The third and smallest of the three provinces, Alava, has the seignory of Biscay and Guipuzcoa on the N.; Navarre on the E.; and Old Castile, from which it is divided by the Ebro, on the S. and W. It now forms a principal part of the prov. of Vittoria, the name of its chief town. The other towns are Salvatierra, Lequiana, and Gamboa. It is surrounded and intersected by mountains, similar to those in the other Basque provs., and affording the same products of iron, black and red marble, gypsum, &c. They are covered with oaks, wild apple trees, thorns, box, yews, limes, hollies, &c. The crops of grain exceed the demand of the inhab. Climate cold and damp, with long winters, frequent and heavy rains, snow, frosts, fogs, and mists; but it is healthy, and the inhab. strong and long-lived. Agriculture is the chief pursuit. In some parts they plough with oxen, as in Navarre; and in others, use the *laga*, as in Biscay and Guipuzcoa, weeding the ground repeatedly till it looks like a garden. The iron-works are greatly reduced in consequence of the destruction of the forests which supplied them with fuel, and of the weight of the duties paid on iron taken into Castile. The manufactories of hats, shoes, boxes, &c., are also in a state of decay; but a good many hands are occupied in the manufacture of table linen and coarse cloths. They also make a good deal of salt. (*Diccionario por la Academia*, i. 13; Miñano, i. 54; Antillon, p. 92; *Journal of the British Legion* by a Staff Officer, p. 155.)

The Basques have a peculiar language, which

is undoubtedly of great antiquity. Lécuse, in his 'Grammaire Basque,' endeavours to trace it to the Hebrew, as a dialect of the Phœnician, brought to Carthage, and thence to Spain; and attempts by its means to interpret the speech of Hanno in Plautus! From the supposed prevalence of Basque names of mountains, plains, forests, rivers, and towns in every part of Spain and Portugal, it has been concluded that the Basques once pervaded the whole peninsula. They have no alphabet of their own, but learned men write the language with Roman letters. Its chief characteristics are its similarity to the Hungarian and Turkish, in its inversion of the order of its particles, and its unparalleled variety of verbal inflections. Their only books are the New Testament, printed at Rochelle in 1571, some devotional tracts, catechisms, national poetry, dictionaries, and vocabularies. They count by twenties up to a hundred, and seem originally to have had but three days in their week, there not being ancient names for more. Few natives, except the gentry, know any language other than the Basque. It is also spoken, with some variation, in part of Navarre, as well as by the French Basques. (Lécuse, *Grammaire Basque*, p. 2, 8, 14, 26, 28, 219; W. Humboldt, *Prüfung der Untersuchungen über die Urbewohner Hispaniens*.)

The government of these provinces has had, from the earliest times, a republican form. The people choose the members of the *ayuntamientos*, or municipal corporations, who, again, elect the deputies to the provincial assemblies, which meet every two years in Biscay, once a year in Guipuzcoa, and twice a year in Alava, to provide for the interior administration of their respective provinces, to vote the supplies, and to determine the appropriation of the money granted. Each assembly chooses a magistrate, in whose hands the executive power is placed when the *juntas* are not sitting, and who treats on equal terms with the *corregidores*, or ambassadors, appointed by the king of Spain to reside in each prov., but who must not, on any account, be natives of these provinces, nor exercise any authority in them. The people choose, also, the tax-collectors, and pay their civil officers moderate salaries for their services. Their taxes are light, and levied according to a valuation, which is frequently modified. Their ancient privileges, or *fueros*, order that they shall not be taxed by the Spanish government, except in a small sum, paid by Guipuzcoa and Alava, continuing at about 540*l*. sterling, the amount paid in the 14th century. But Biscay is free from this, and pays a larger sum every four or five years under the name of *donativo*, or gift. They have no monopolies nor custom-houses, every article being imported duty free. They are also free from the conscription and impressment, to which every other part of Spain is subject; but, in case of foreign invasion, they are bound to defend their frontiers without the king's troops. Another of their important privileges is that of being exempted from torture, or threat of torture, direct or indirect, on any pretence whatever, within Biscay or out of it. (*Fuero Sit. Ley*, xii.) On the other hand, they have always been prohibited from trading directly with the Spanish colonies, and are shut out from a free trade with the rest of Spain, by heavy duties and a line of custom-houses all along the Ebro; and are also obliged to resort to the court of chancery at Valladolid, for the decision of their lawsuits. Their financial system seems to have been well managed, since the price of the Alava 3 per cent. debt, before the breaking out of the present civil war, was 93; and in Biscay and Guipuzcoa, the

extra taxes imposed during the French invasion were being refunded to the contributors. Foreigners, not of the Catholic religion, cannot establish themselves in any line of business in the Biscay provinces. (*Diccionario Geográfico por la Real Academia de la Historia*, Madrid, 1802, ii. 488-510; *El Fuero Privilegios*, &c., de Vizcaya, Medina del Campo, 1575; Spain, Past and Present, Monthly Chronicle, November, 1888, p. 440.)

The Biscayans being devoted to agriculture, navigation, and commerce, and having little inequality of condition, possess those virtues that are seldom found united with ease and riches acquired without toil. They are honourable, brave, cheerful, and courteous, without being mean. They are also docile, when well treated; but, if roused by ill-usage, are stubborn and inflexible. In general, they retain the dress, customs, and simplicity of manners, as well as the institutions of the 13th century; and pride themselves on their independence, and the antiquity of their lineage. The women, who are robust, assist the men in their severest labours. Not only the indoor, but the out-door, work of the house is done by female servants; and even señoras, delicately brought up, may be seen in their walks climbing the rocks with no other protection than a parasol. (*Diccionario por la Real Academia*, ii. 484; *Miñano*, i. 326.)

They are very fond of dancing, and assemble every Sunday afternoon to enjoy that amusement. Some of their dances are of a grave, majestic, and ceremonious character; others, gay and lively. They also delight in bull-fights, and play much at a game with a ball, called *pelota*, for which public sites are everywhere appropriated. At their weddings they discharge guns and pistols, on entering and quitting the church. Some villages distribute bread and cheese, wine and walnuts, at their funerals; some beg money for masses for the soul of the deceased. They are sober, but are fond of good living. They dress with a blue cap, red sash, and *alpargates*, or hempen sandals, tied on with blue or red ribands; and in wet weather, *espadillos*, or brogues of hide. The women dress as in Castile; the married wear a thin muslin handkerchief, tied on the head, like the Irish; the girls wear their hair braided down their backs. There are theatres at Bilbao and Vittoria, where plays and operas are performed; and the upper classes follow the fashions of France and the rest of Europe. (*Diccionario por la Real Academia de la Historia*, i. 326; Bowles, p. 306; Henningson's Campaign in Navarre and the Basque Provinces, p. 72.)

Little is known of the early history of the Basques before the time of the Romans, or during the ascendancy of the Goths and Saracens; by all of whom the country was partially overrun. The Spanish Academy of History says, there is no reason to suppose that any family ever had that absolute sovereignty over it that has been supposed, but that its rulers were subject to the Spanish kings of Asturias, Navarre, and Castile, like the rest of the principal señors of the kingdom, with the exception of that difference which arose from the great power of the family of Haro, who held the lordship for many years. In 1332, the deputies of the three provinces offered the dignity to Alphonso XI., king of Castile, who accepted the lordship; but before the grant was executed, the most formal reserves were made of their franchises and privileges, and the king was obliged to sign a treaty, one of the articles of which was, that the Castilian monarch should never possess any village, fortress, or house, on the Basque territory. Their country has been the scene of frequent and

long-continued wars with foreign nations, and is now the principal theatre of a destructive civil conflict. Though republican in all their institutions, they are much attached to the Spanish dominion.

BISCEGLIA, a sea-port town of Southern Italy, prov. Bari, on a rocky promontory, on the Adriatic, 12 miles ESE. Barletta, and 18 miles SE. Trani. Pop. 19,716 in 1862. A railway connects Bisceglia with the Gulf of Taranto, on the one hand, and Ancona and the central and north Italian lines on the other. The town is surrounded by lofty stone walls, and is ill built: it is the seat of a bishopric, has a cathedral, two collegiate and some other churches, convents for both sexes, a public school, a hospital, a *mont-de-piété*, and a fine theatre. Its port admits only small vessels, and it has little trade. It has numerous reservoirs and cisterns cut in the solid rock, and arched over, for the collection and preservation of the rain water, the place being entirely destitute of springs. It is supposed by some to be the *Nativum* of the Peutingian tables, but other critics contend that its ancient name was *Vigilia*. Swinburne says that it is destitute of any remains of antiquity. (Swinburne's Two Sicilies, i. 185, 4to. ed.; Craven's Naples, p. 93; Dict. Géographique, &c.)

BISCHOFBURG, a village of Prussia, prov. E. Prussia, on the Dimmer, 15 m. SSW. Rossel. Pop. 3,183 in 1861. There are factories of linen and thread.

BISCHOFSTEIN, or **BISCHSTEIN**, a town of Prussia, prov. E. Prussia, reg. Königsberg, on a marshy lake, 47 m. S. by E. Königsberg. Pop. 3,274 in 1861. The town has two Catholic churches, a high school, fabrics of cloth and stockings, with distilleries and breweries.

BISCHWILLER, a town of France, dép. Bas Rhin, cap. cant., on the Moder, 15 m. N. Strasburg, on the railway from Strasburg to Mayence. Pop. 3,780 in 1861. The town was once fortified; but the works were destroyed by the Imperialists in 1706. It manufactures coarse woollen and linen cloths, woollen gloves, pottery, tiles, and bricks, and has woollen mills, madder mills, and tanneries.

BISENTO, a town of Southern Italy, prov. Teramo, cap. cant., in a valley, 10 m. NW. Civitadi-Penne. Pop. 3,518 in 1862. The town has several churches, a dyework for cloth, and fairs on May 16 and 17.

BISHOPS-AUCKLAND, a market-town and township of England, co. Durham, NW. div., Darlington ward, par. St. Andrew Auckland, 10 m. SW. Durham, on the South Durham and Lancashire Union Branch railway. Pop. 6,480 in 1861. The town, which is well built, stands on an eminence, having the Wear on the N., and the Gaunles on the SE. The par. church is about 1 m. distant, but there is a chapel of ease in the town, and the Methodists, Independents, Quakers, &c., have also chapels. There is a grammar-school founded by James I., and farther endowed by several prelates; a school on the Madras system for 200 boys, and a school for girls, both founded by Bishop Harrington. The town, owing to great facilities of railway communication, is flourishing, and the population on the increase; but the place owes its importance to its having at its NE. end the magnificent castle or episcopal palace of the bishop of Durham. The building is of great extent, has a fine chapel built by Bishop Cosins, and some good pictures. The park includes about 800 acres.

BISHOP'S CASTLE, a par., bor., and town of England, co. Salop, hund. Parslow, 144 m. NW. by W. London. Area, 6,000 acres. Pop. of par., 1821, 1,870; 1831, 2,007; and 2,083 in 1861. The

town stands on the slope of a hill, near a small branch of the Clare. There are some good houses, in detached situations; but the greater part of the town is irregularly and meanly built of unhewn stone. The church (originally a fine structure of the Norman period) was partly destroyed in the civil war, and subsequently restored. There are several dissenting places of worship, and a free school, educating 50 boys and girls. The town-hall, built in 1750, contains prisons for criminals and debtors. A weekly market is held on Friday, and annual fairs, Feb. 13, Friday before Good Friday, Friday after May 1, July 5, Sept. 9, and Nov. 13. That in May is a pleasure, and that in July a wool fair: the rest are for cattle. A charter of the 26th of Elizabeth conferred on the corporation the privilege of returning two mem. to the H. of C., which it exercised till the passing of the Reform Act, when it was disfranchised. Its local limits were extensive, having a circ. of 15 m. Its name is derived from an ancient castle of the bishops of Hereford, which has been long demolished; the site of it, however, may still be traced.

BISHOP'S STORTFORD, a par. and town of England, co. Hertford, hund. Branghin, on the Stort, 26 m. NNE. London on the Great Eastern railway. Area, 3,080 acres. Pop. of par., 5,390; of town, 4,673 in 1861. The greater part of the town stands on the slope of a hill, on the W. side of the river, and consists of two lines of street, intersecting each other at right angles, and forming a cross. It is, on the whole, well built. The church stands on an eminence, and has a fine tower. There is a national school for 300 children, and a public library. It has an excellent market-house (built at the intersection of the streets, in 1828, with an Ionic front), which contains a large hall, used as a corn-exchange, over which are assembly and magistrates' rooms. The weekly market is on Thursday, and three annual fairs are held on Holy Thursday, Thursday after Trinity Sunday, and 10th October. The malting and corn trades constitute the chief business of the town, for which there are convenient wharfs along the river and the canal (both of which are contiguous to it); and being in the centre of a good corn district, the trade is considerable. There is also a silk-mill, which employs many hands. Under the Poor Law Amendment Act it is the union town for 20 pars.; its own rates average 1,281 $\frac{1}{2}$ l. Petty sessions are held every fortnight by the co. magistrates; it is also a polling town for Herts.

BISHOP'S WALTHAM, a par. and town of England, co. Southampton, div. Portadown, hund. of Bishop's Waltham, 62 m. SW. by W. London, on the London and South Western railway. Pop. of parish, 2,267 in 1861. The town is situated by the Hamble (a small stream rising 1 m. from the town) in the vicinity of Waltham Forest. It has a good church, an endowed charity school for 36 boys, and a national school for 160 boys and girls. It has a weekly market on Friday, and annual fairs on second Friday in May, July 30, and Friday following Old Michaelmas-day. Leather-dressing is the chief trade of the town, which is mostly disposed of at its own fairs, and those of the neighbourhood. There is also some malting business carried on. It is a polling town for the northern division of the county. The ivy-covered ruins to a fine old castle are in the immediate vicinity. It originated in the reign of Stephen, but owed its subsequent magnificence to William of Wykeham. The castle was demolished by the parliamentary army in the last civil war.

BISHOP-WEARMOUTH. (See **SUNDERLAND**.)

BISIGNANO (an. *Besidia*), a town of Southern

Italy, prov. Cosenza, 15 m. N. Cosenza. Pop. 3,821 in 1859. The town is defended by a castle situated on the highest of the seven hills by which it is surrounded; is the seat of a bishopric; has a fine cathedral, numerous churches, a nunnery, several convents, two hospitals, and a house of refuge. Large quantities of silk-worms are reared in the vicinity.

BISSAGOS, a group of small volcanic islands, on the W. coast of Africa, opposite the embouchure of the Rio Grande, between 10° and 12° N. lat., and 15½° and 16½° W. long. The largest is about 15 m. in length, and some of them are uninhabited. The inhab., who are described as brave but treacherous, raise some maize, but are principally dependent on their cattle, goats, and fishery.

BISZTRITZ (Slav. *Beazterze Videke*), a town of Transylvania, Austria, cap. district, in a fine valley, on the Bisztritz; lat. 47° 5' 46" N., long. 24° 32' 18" E. Pop. 6,800 in 1857. The town is fortified, has a gymnasium, two schools, and two hospitals, with a considerable trade in cattle.

BITCHE, a town and fortress of France, dép. Moselle, cap. cant., at the foot of the Vosges, 15 m. ESE. Sarguemines. Pop. 2,965 in 1861. The population is declining. The fortress or citadel stands on an almost inaccessible rock rising from the middle of the town. The interior of the rock is vaulted and casemated; the fort mounts 80 pieces of cannon, may be garrisoned by 1,000 men, is well supplied with water, and is looked upon as next to impregnable. The town, formerly called Kaltenhausen, is built at the foot of the rock, surmounted by the citadel, near a large shallow lake or mere, where the Horne has its source. It produces different sorts of fine pottery. The glass-works of Munsthal, in the vicinity, furnish flint glass of the value of 600,000 fr. a year.

BITETTO, a town of Southern Italy, prov. Terra di Bari, in a fertile plain on the Adriatic, 10 m. SW. Bari. Pop. 5,885 in 1859. The town is the seat of a bishopric; has a cathedral, remarkable for its pictures and marbles, and several convents.

BITONTO (an. *Butuntum*), a town of Southern Italy, prov. Terra di Bari, cap. cant., in a fine plain, 10 m. WSW. Bari, on the railway from Bari to Taranto. Pop. 24,221 in 1859. Bitonto is a fine town, and the inhabitants are said to be much easier in their fortunes, and more polished and improved in their manners, than those that dwell in the cities along the coast. It is the seat of a bishopric; has a fine cathedral, twelve parish churches, convents for both sexes, a hospital, and a nunnery. The environs produce a wine called *sagarillo*, said to be excellent, and in which the town trades extensively. In 1734 the Spaniards, under the Count de Mortemar, gained, in the vicinity of this town, an important victory over the Austrians.

BITRITTO, a town of Southern Italy, prov. Terra di Bari, 7 m. S. Bari, on the railway from Bari to Taranto. Pop. 3,771 in 1859. It has a fine collegiate church, and its territory is celebrated for its wines and almonds.

BITTBURG, a town of Prussia, prov. Lower Rhine, cap. circle, 18 m. NNW. Treves. Pop. 2,267 in 1861. The town has a castle, two Catholic churches, and some trade in corn and cattle.

BITTERFELD, a town of Prussia, prov. Saxony, reg. Mersebourg, cap. circle, 16 m. S. Dessau, at the junction of the railways from Berlin to Halle, and from Dessau to Leipzig. Pop. 4,284 in 1861. The town, which is in a flourishing condition, was founded by a colony of Flemings, whose descendants hold their property in common, and are go-

vernored by peculiar laws. It has fabrics of cloth and earthenware.

BIZERTA, or **BENZART** (an. *Hippo Diarrhytus*, or *Zaritus*), a sea-port town of Tunis, at the bottom of a deep gulf or bay (*Sinus Hipponensis*), on a channel uniting the gulf with an inland lake or lagoon, 40 m. NW. Tunis; lat. 37° 17' 20" N., long. 9° 50' 35" E. Pop. variously estimated at from 8,000 to 14,000. It is about 1 m. in circ., and is defended by walls, and two castles; but as the latter are commanded by a height within a short distance, it could oppose no effectual resistance to an army attacking it by land. Though it has a good appearance at a distance, it is, like most other Turkish towns, really mean and dirty. Its port, which now only admits small vessels, was formerly one of the best in the Mediterranean, and might easily be restored, in this respect, to its ancient pre-eminence. The channel on which the town is built has in parts five and six fathoms water, and it might, with no great labour, be everywhere deepened to that extent. The lake, or inner harbour, is of great extent, with a depth of water varying from ten to fifty fathoms, and is capable of accommodating the largest navies. The country round is also exceedingly fertile; so much so that, notwithstanding its neglected state, large quantities of corn are occasionally exported from Bizerta.

BLACKBURN, a market town and parl. bor. of England, co. Lancaster, hund. and par. of Blackburn, on an affluent of the Ribble; 183 m. NW. by N. London, 81 m. NE. Liverpool, 21 m. NW. by N. Manchester, 12 m. N. by W. Bolton, and 9 m. E. by S. Preston, at the junction of the railways from Preston to Burnley, and from Bolton to Chatburn. Blackburn is one of the great manufacturing centres of England which have had an extraordinary development in the course of half a century. The population of the bor. numbered 15,083 in 1811; rose to 21,940 in 1821; to 36,629 in 1841, and to 63,126 in 1861. The parish, which had 39,899 inhabitants in 1811, counted no less than 110,349 in 1861. The town, situated on a rivulet, called in Domesday Book 'Blackeburne', was, with the surrounding district, a manor during the reign of William the Conqueror, who granted it to Ibbert de Lacy. A castle, of which no trace exists at present, is said by Whitaker to have been a station of the Romans, and of the Saxons. Camden and Blome both notice it as a thriving market-town in their days. The eminences in the vicinity are naked, and in winter the place has a dreary aspect. It is irregularly built, owing partly to its antiquity, and partly to the intermixture of glebe and other lands, the tenures of which interfered with a better arrangement of the avenues. The parish church of St. Mary, originally built before the Conquest, was rebuilt on a new site in 1819, at an expense of 26,000l.; it is in the Gothic style, contains 2,000 sittings, of which 700 are free; and in boldness, symmetry, and correctness of design, is said to be surpassed by but few ecclesiastical structures. It sustained some injury, which was soon after repaired, from a fire in 1831. There are ten other episcopal churches in the town and 24 in the parish. The Methodists, Baptists, Independents, Roman Catholics, Swedenborgians and Society of Friends have all one or several places of worship. The educational establishments comprise a grammar school founded and endowed temp. Elizabeth; Leyland's school for the education of girls; with National, British and Foreign, and other schools. The public buildings, with the exception of those applied to theological purposes, are few in number, and consist principally of a small neat theatre, and a cloth-hall. It has a

dispensary and a lying-in institution, a horticultural society, and two weekly papers.

The Reform Act conferred on Blackburn the privilege of returning 2 mem. to the H. of C. The bor., which is identical with the township, comprises 3,610 acres; and had 1,758 regis. electors in 1861, being all occupiers of 10*l*. houses. The government of the town is vested in commissioners; and the magistrates of the hundred hold petty sessions in it. A county court is established here. The assessment for the relief of the poor in Blackburn Union amounted in 1861 to 126,378*l*.; and the amount assessed to property tax to 178,998*l*.

The manufacture of a kind of cloth made of linen warp and cotton wool, each partly of dyed thread, giving the web a chequered appearance, and thence called Blackburn cheque, was carried on here in 1650. It was afterwards superseded by that of Blackburn greys, consisting also of linen and cotton, so called from their being printed in an unbleached state. James Hargreaves, a working carpenter, the inventor of the spinning-jenny, the first great step in that wonderful career of invention and discovery that has raised the cotton manufacture to its present unexampled state of prosperity, was a native of Blackburn. In 1767 he produced the jenny; but instead of meeting with the countenance and support due to his singular deserts, he was driven out of the town, and eventually out of the county; and it was not till about 1810 or 1812 that the people of Blackburn began largely to embark in the cotton trade, and to avail themselves of the discoveries that had originated in their town. Now, however, spinning of the coarser kind of calicoes, and their weaving by the power-loom, constitute the staple trade of the place.

The abundance of coal raised from the coal field a few m. to the S. has largely contributed to the progress of manufactures. They have also been much facilitated by the Liverpool and Leeds Canal, which passes close to the town, and by the opening of railways. Markets are held on Wednesdays and Saturdays, in an inconvenient place; fairs for cloth, in the cloth-hall, on Easter-Monday, 11th, 12th May, and 17th Oct.; and for cattle, on the alternate Wednesdays from the beginning of February to Michaelmas. The banking establishments are branches of the Manchester and County Bank, of the Manchester and Liverpool District Bank, and a private banking-house, called the Old Bank.

'In the early stages of the cotton manufacture,' says Mr. Baines, 'the inhabitants, in general, were indigent, and scantily provided (and this is still the case so far as the hand-loom weavers are concerned); but decisive proofs of wealth now appear in this place on every hand; handsome new erections are continually rising up; public institutions for the improvement of the mind, and the extension of human happiness, are rapidly increasing; and this place, at one time proverbial for its rudeness and want of civilisation, may now fairly rank, in point of opulence and intelligence, with many of the principal towns in the kingdom.'

BLACKHEATH, an elevated moory tract, in the vicinity and forming a suburb of the British metropolis, which gives name to the hund. in which it is situated, in the lath of Sutton-at-Holme, co. Kent. The greater portion of the hundred of Blackheath is in the parish of Greenwich, but it also extends into those of Charlton, Lewisham, and Lee, and is $\frac{1}{2}$ m. in an E. and W. direction, and about half that N. and S.; from St. Paul's to the nearest part is about 5 m. SE. The population, according to the census of 1861, amounted to 10,473. The district is intersected by the South Eastern and North Kent railway.

It commands many fine prospects, and has numerous elegant villas. There are several churches and chapels, and a great number of private schools. On the E. side is Morden College, a quadrangular structure, founded in 1708, for decayed merchants; its revenue is about 5,000*l*. a year, in the hands of seven trustees, who nominate the pensioners, and appoint the treasurer and chaplain: there are about 40 supported, each of whom receives 5*l*. a month, and has a separate apartment; but they eat at a common table: none are admissible under 50 years of age. A Roman road (Watling Street), from London to Dover, traverses the heath, nearly in the direction of the modern line: there are some large ancient tumuli on it. In the 11th century the Danes (whose fleet lay off Greenwich) were encamped on the heath some months, whence they made many excursions; in one of which Canterbury was sacked, and the archbishop carried off, and afterwards killed. Wat Tyler, and subsequently Jack Cade, took up positions with their followers on it; as did the Cornish rebels, under Lord Audley, defeated with great slaughter by Henry VII. Thither also, in former times, the lord mayor and corporation, and occasionally the king and his court, were wont to go, when illustrious personages were to be welcomed to the capital. (Hasted's Kent.)

BLACK SEA (the Euxine, or Πόντος Εὐξίνος of the Greeks and Romans), a large internal sea lying between the SW. provinces of Russia in Europe and Asia Minor, extending from 40° 50' to 46° 45' N. lat., and from 27° 25' to 40° 48' E. long. It is bounded on the N. and NW. by the Russian provinces of Taurida, Kherson, and Bessarabia; on the NE. and E. by the Caucasian countries Circassia, Mingrelia, and Imeritia; on the SE. and S. by Armenia and Asia Minor; and on the W. by the Turkish governments of Rumelia and Bulgaria. Its extreme length from E. to W. is upwards of 700 m.; its greatest width, on the 31st meridian, 400 m.: E. from this it narrows by the projection of the Crimea, and the advance of the opposite shore of Asia Minor, to 154 m.; again it widens to 265 m. between the Strait of Yenikalé and the Gulf of Samsun, but from the last point it constantly and rapidly diminishes, till its E. coast (running due N. and S.) does not exceed 60 m. in width. Its surface is estimated at about 160,000 sq. m., and its coast line, including its sinuities, considerably exceeds 2,000 m. (Chevalier, Voy. de la Propont. et du Pont. Eux. p. 320; Jones's Travels, ii. 383; Rennell's Comp. Geog. of W. Asia, ii. 277.)

The Black Sea is connected with the Sea of Azoph by the Strait of Yenikalé (an. *Bosphorus Cimmerius*), and with the Sea of Marmara, by the Channel of Constantinople (an. *Bosphorus Thracius*). With these exceptions it is wholly isolated. It is also much more compact in form than most other large bodies of water; giving off no great limbs, like the Baltic, Mediterranean, &c., and having very few even moderately-sized gulfs. The most important, that of Kirikinit (the *Carcinitus Sinus* of the ancients) lies between the NW. shore of the Crimea and the opposite shore of S. Russia, extending as far E. as the Isthmus of Perekop. The coast of the sea is, however, by no means iron-bound; small bays and harbours innumerable occur at short distances, through all its circuit, but none of them is in the least comparable, as to size, with the Gulf of Kirikinit, unless, indeed, the Sea of Azoph and the Sea of Marmara be reckoned gulfs of the Black Sea. The straits of the Black Sea are very remarkable; they scarcely break the continuity of the land, for at their narrowest part, that of Yenikalé, is not more than

2 m. across, and that of Constantinople less than $1\frac{1}{2}$ m. (Pallas's Travels in S. Russia, ii. 288; Chevalier, p. 44.) The former, indeed, spreads out in low and swampy grounds into a kind of marshy bay, the greatest width of which, measured transversely, is about 84 m. (Pallas, ii. 300); but the Thracian Bosphorus flows through its whole length of about 17 m., like a magnificent river, between mountainous banks, and in no part attains a width of more than 2 m. or 2½ m. (Jones, ii. 448.)

The depth of water in this sea is variable, but the variations appear to be extremely regular, depending generally upon the proximity of the land; so much so, indeed, that in many places (off the mouths of the Danube in particular) the distance of the shore may be known within $\frac{1}{2}$ m. from the soundings only. (Eton, Commerce of the Black Sea, p. 6.) In the Strait of Yenikalé, the depth, in its shallowest part, does not exceed 11 ft., nor in its deepest is it more than 22 ft.; but passing this the sea itself is found, in the neighbourhood of the strait, to have a general depth of 4 fathoms, deepening rapidly to 20 fathoms or more; while, in the S. parts, 48 fathoms are found at the entrance of the Thracian Bosphorus; an equal or greater depth along the W. shore, at a little distance from the land, as far as the mouths of the Danube; and in the main sea, between the Bosphorus and Sebastopol, in the Crimea, no bottom is found at 100, 120, 140, and 160 fathoms. The sea upon the S. coast, from Constantinople to Sinope (long. 35°), is tolerably deep; thence to the E. coast, it is known only that vessels of any draught may navigate its waters; and the NE. shore, between the rivers Phasis and Kuban, may be regarded as yet unknown to Europeans. (Voy. of the Blonde, 1829; Geog. Journal, i. 106; Eton, pp. 7-15; Admiralty Charts, sect. iv. pl. 73.)

The Euxine is enclosed on the NE., ES., and SW. by high mountains, which run down close to its margin; even on the W., the Carpathians approach its shores to within 170 m.; but towards the NW. and N., it opens on the great plain of Southern Europe. Not a mountain rises near its bed in these directions, except the small range in the S. of the Crimea.

The basin of the Euxine expands, in a westerly direction, from about 40 m. to nearly or quite 260 m. in width; but immediately N. of the Caucasian mountain, it suddenly stretches E. 890 m., the sea receiving, through the Kuban, nearly all the water that flows from the NE. face of the Caucasus, and by various other channels, considerably the larger part of all the drainage from the low and swampy lands W. of the Caspian. (See CASPIAN SEA.) On its N. coast, the Black Sea receives the waters of some of the first class European rivers from a distance of 700 m. from its shores. (See DON, DNIESTR, DNIÉPR.) The Don, indeed, falls into the sea of Azoph; but this is, physically considered, only a part of the larger body with which it is connected. But by far the most remarkable part of the basin of the Euxine is that towards the W. The Carpathians approach, in this direction, to within a comparatively short distance of its shores; but, notwithstanding this, the Danube, after breaking through the mountains at Orsova, reaches the Euxine charged with all the surplus waters of the E. and NE. declivities of the Alps, the S. and part of the NE. declivities of the Carpathians, the S. declivities of the Sudetes, and the N. declivities of the Balkhan; in other words, the whole water of N. Turkey, of the Austrian empire, with the exception of Bohemia and Lombardy; together with a great part

of that of Southern Germany. (See DANUBE.) These countries extend above 1,000 m. W. from the Black Sea; their surface is equal to more than 1-11th part of the whole of Europe, and their running water to almost 1-8th part. (Lichtenstein, Cosmog. i. 328 *et seq.*) When to this is added the supply from the NE. and S., it will be evident that the basin of the Euxine is of very great extent. The much larger portion belongs to Europe, of which it drains almost 1-3rd part; and the amount of water received by the sea is equal to that given from the same division of the world to the Mediterranean (*direct*) and Baltic together. It is indeed by far the largest of the European basins, nor is there anywhere a similar tract of country so abundantly irrigated.

There are no tides in this close sea, but from the vast quantity of water received, the currents are very marked, powerful, and regular; a little variation is caused by winds, and some trifling complexity near the mouths of rivers; but in general the direction is from all points towards the Channel of Constantinople, through which a very constant flow is kept up to the sea of Marmara. Within this strait, however, the currents become rather more variable, being thrown from side to side by the inequalities of the coasts, and the narrowness of the channel. (Chevalier, p. 45; Jones, ii. 394, 447; Pallas, ii. 288; Geog. Journ. i. 107, &c.) The water of the Black Sea appears to contain more salt than could have been expected, under existing circumstances. It has been observed, of the constant action of the St. Lawrence on the N. American lakes, that it has been continued long enough to make them sweet and clear, even had they originally been filled with ink. But an operation, not less powerful, has been at work fully as long upon these waters; and though the Sea of Azoph has become potable, except when a SW. wind prevails, the Black Sea itself is said to be only about 1-7th part less salt than the Atlantic, and fully 1-10th saltier than the Baltic. (Chardin, p. 156; Jones, ii. 143, &c.) This is, in all probability, attributable to the saline nature of the sea-bed. The N. coast is almost one continued plain of salt, and the numerous lakes, with which these steppes abound, are, by the action of the summer sun, covered with a thick white crust of the same mineral, perfectly crystallised, and having the appearance, and almost the consistency, of ice. (Pallas, ii. 466-477; Mrs. Guthrie's Tour through the Taurida, pp. 55-59, &c.) It is very improbable that this peculiarity of soil should be continued to the very edge of the sea, and then suddenly cease; and on the other hand, if it be farther continued to any distance, it will necessarily countervail in a great degree the influence of the immense supply of fresh water. The fact is, however, that but very little is known, with anything like certainty, of the chemical composition of the Black Sea. The Russian observations are limited to the N. shores; the few French and English travellers who have traversed its surface, have done so only partially and hurriedly: among trading navigators there has been no Jonas Hanway; and the statements of the Turks exhibit nothing but ignorance and misrepresentation. However, many old prejudices with respect to it are fast vanishing; and the Euxine is no longer regarded as a dark and desolate region of storms, danger, and shipwreck. That such an opinion should have ever prevailed, is not a little remarkable; but it did prevail in ancient, and in modern times till a comparatively late period. Tournefort was the first who attempted to dispel the prejudices and misrepresentations referred to; and who ventured to represent

facts as he found them, and not as they had been disguised by the poets of antiquity, and by blind and ignorant Turkish navigators. (Tournefort, ii. 164.)

The prevailing wind in the Euxine is from the NE., and as it blows over a great extent of flat and swampy country, it is laden with moisture; and being confined by the high land on the E., S., and SW., heavy fogs are occasionally produced. Dr. Clarke states that, 'in winter these fogs, and the falling snow, cause sometimes a darkness so great, that mariners are unable to discern objects at the distance of a cable's length from their vessels.' (Travels, i. 641.) But this inconvenience involves scarcely any hazard, for the depth of water is always sufficient to allow of lying to without danger of drifting upon sand or rock; and with the least break in the weather, landmarks of the very best kind come into view, which may be seen at 20, and often 60 m. distance. (Eton, pp. 8, 9.)

From the confined extent of the water, a short and troublesome sea is caused by anything like a gale; but it is not dangerous; and storms, to which the Black Sea is not more subject than other seas, are rarely of long duration. (Eton, p. 6.) While they last, the close pent up water being greatly agitated, accidents, of course, sometimes occur; but it would, perhaps, be rather difficult to point out any sea of limited dimensions where, under such circumstances, they do not occur. The NW. shore is low and sandy: a sandbank 3 m. in extent lies near the entrance of the Channel of Constantinople; and on the coast of Crimea two rocks lie close in shore.

There is also an opening, called *Yalan Boku* (false mouth), a little to the N. of the Channel of Constantinople, and very considerably resembling it, though easily enough distinguished when the landmarks are visible. Ignorant pilots frequently conduct their ships into this mouth; and as it runs upon a low and dangerous shore, the consequences are mostly fatal. These are the only known real dangers of this sea. (Eton, p. 4-5; Jones, ii. 387-397.) On the other hand, the Euxine is deep, and singularly free from rocks and shoals: there are but two islands in its whole area; the Isle of Serpents, off the mouth of the Danube, and Kerpe, or Carpath, on the shore of Asia Minor. The navigation is therefore of the openest kind, and even in the worst of storms there is no want of sea room. The largest ships may sail close to its high shores: the anchorage grounds are good, and hold well; and many of its ports are excellent. In fine, the Euxine may be described as a clear open sea, whose navigation is as easy as possible to skillful mariners, the bad character which it has so long undeservedly borne being wholly ascribable to the bad construction of the vessels, their want of charts and compasses, and the utter incapacity of the sailors by whom, till recently, it has been navigated. From the 15th to the latter part of the 18th century, the Turks excluded every other nation from its waters. At length the Russians fought their way to its shores, and in 1799 it was partially opened to British and other European traders. Conventions to the same effect were made with the Turkish government by Queen Elizabeth, James I., and Charles I., &c. (Treaty of Adrianople, Sept. 1676), but they seem to have been without any effect; and it is only, therefore, since the latter date, or from the beginning of the present century, that the Black Sea has become known to, and been justly appreciated by, navigators.

The climate of the Black Sea and its neighbouring countries is subject to great extremes, but at an average is lower than would be supposed from

its latitude. This would seem to be ascribable principally to its want of shelter on the N.; the winds from the polar regions reaching its coast, and blowing over its surface, unmitigated except by the temperature of the plain land over which they pass. Winds from the S. are less frequent than those from the N., and having to climb the snowy heights of the Taurus before they reach the coast, they arrive there materially chilled. Even on its S. shores, the N. wind sometimes prevents travelling even in the month of May. (Tournefort, iii. 37.) Its N. gulfs and bays are in certain seasons frozen hard enough to open a passage for troops; and it is recorded by Strabo (lib. vii.) that the soldiers of Mithridates engaged those of the Tauric Chersonesus (Crimea) in the winter, on a part of the Bosphorus where, in the preceding summer, a naval action had been fought. In 1065, the width of the strait was measured on the ice (Pallas, ii. 300): an equal degree of cold has been experienced in several winters within the present century; and, although such extreme inclemency is not very common, navigation is always suspended with every return of winter in the sea of Azoph, and most commonly along the whole N. shore of the Euxine. On the other hand, the summers are usually hot, the thermometer in the shade frequently standing at 98°, 100°, and even 102° Fahr. It often, however, varies in the same day from 22° to 27°, both in winter and summer, and in the former the barometer partakes of the irregularity, but is subject to fewer changes in the latter. Thunder-storms are rare, but tremendous when they do occur, being frequently accompanied by destructive hailstones and water-spouts. The climate is accounted healthy, except in the autumn, when bilious fevers are prevalent. The scourge of Mohammedan countries, the plague, is more or less common all round the coast, but this is a consequence of the filth of the inhabitants, and not of the climate. (Pallas, ii. 376-380; Mrs. Guthrie, pp. 33, 55, &c.; Tournefort, iii. 16, &c.)

The Euxine teems with seals, porpoises, sturgeons, dolphins, mackerel, mullet, bream, and other fish, mostly of the same kind as those caught in the Caspian and Sea of Aral (see CASPIAN SEA): there are, however, few fisheries established along its shores, though, where they do exist, they are extremely productive. (Pallas, ii. 51, 152, 289, 461-463; Olivier, Voyage dans l'Empire Ottoman, i. 185, &c.)

There are many conflicting opinions as to whether the Euxine be or be not of permanent magnitude. It was a commonly received opinion among the ancients, that it was formerly separated from the Mediterranean, and that the Thracian Bosphorus was burst through by a convulsion of nature, or by the deluge of Deucalion; and Aristotle even believes that this event did not long precede the time of Homer. (Josephus, Antiq. i. 3; Diod. Sic. v. 3; Aristotle de Met. xiv.; Pliny, vi. i. &c.) Without supposing any great degree of physical knowledge on the part of the Greeks, it may be supposed that the inhab. of the countries bordering on the Euxine would have a vivid recollection of such a catastrophe, had it occurred, and that, consequently, it would scarcely have been an invention or hypothesis of the writers. Add to this, that geological appearances strongly confirm the supposition; and the fact, though sneered at by some, will appear not a little probable. (Pallas, i. 80, 83; Tournefort, ii. 346-390; Olivier, i. 122; Dureau, de la Malle, Géo. Phys. de la Mer Noire, pp. 196-225.) It will be observed, that among the ancients only historians and naturalists have been cited, but it may be added, that the same revolution is dwelt upon by their poets and fabulists.

(See in particular Lucan, vi. 5.) It was, in a word, the universal belief of all ranks and orders. But if this sea were ever thus confined, its surface must have been considerably higher than at present; and this also appears to be the fact, from the accumulation of salt-lakes and marshes in the plain country of its N. borders. It is evident, indeed, that a rise of a few hundred feet in its surface would be quite sufficient to flood the greater part of southern Russia, the whole of which, except the mountains of the Crimea, bear evident marks of having been laid bare at a comparatively recent period (*Pallas, passim*); and the whole appearance of its N. shores is that of a diminished bed. Polybius supposes the Euxine to be gradually decreasing; and he has offered reasons, in support of this opinion, formed on more solid premises than ancient writers often depend upon (iv. 5). In this, however, he appears to have been mistaken. The change in extent, if any ever did take place, seems to have occurred at once with the subsidence of the waters, by the opening of the Thracian Bosphorus. Since the age of Polybius no change seems to have taken place in the size of the sea; but that it has become clearer, is evident from two facts; first, that a bank, called by Polybius *Stethē* (Στήθη), formed at the mouths of the Danube, and more than 100 m. in length, has wholly disappeared; and that the Cyanean Isles, at the mouth of the Bosphorus, so celebrated in the voyage of the Argonauts, are now reduced to low and insignificant prolongations of the two opposite shores. (*Geo. Journ.* i. 106; Jones, ii. 444; Olivier, i. 122.)

Notwithstanding the horror entertained by the Greeks, or rather the Greek poets, of this sea, its shores are famous in their true and fabulous history. Colchis, the Temple of the Sun, and scene of the Argonautic expedition, were on its E. coast; the Cimmerian land of everlasting darkness was originally fixed upon its N. shore; and in more historical times, the Lydian, Persian, and Byzantine powers, and the exploits of Mithridates, illustrated its S. and SW. borders. At an early period many Greek colonies were planted on its shores. Its commerce was also reckoned of first-rate importance. Athens drew from it her principal supplies of corn and naval stores; and it furnished the favourite slaves to the markets of Greece and Rome. Ovid died in exile somewhere on its borders, but whether on the Danube or Dniestr is disputed. From the time of Constantine till the 15th century it formed the centre of the Roman world, and during this period, a part, at least, of the Indian trade was carried on through it: the Venetians and Genoese were the conductors of this traffic. Soon after the fall of Constantinople in 1453, all but Turkish vessels were excluded from the Euxine; and it was not till after the treaty of Kainardji, in 1774, that the Russian eagle was displayed on its waters. Ever since that time, there has been a powerful Russian fleet of war stationed in the Black Sea. In consequence of the war between Russia and Turkey, the latter assisted by England and France, the Czar bound himself, by the treaty of peace concluded in 1856, to limit his fleet of war on the Euxine to 'six steam vessels, measuring 150 mètres at their water-line, and four other light sailing vessels, not above two hundred tons each.' But it is believed that this limitation is not strictly adhered to by the Russian government.

The name of this sea, *Euxine*, is only a modernised form of the original Greek word *αἰνός* (inhospitable), bestowed upon it for the imaginary reasons previously alluded to. It appears, however, that subsequently, the Greeks imbibed a somewhat better opinion of it, and changed its

designation to *ἑσπείνος* (hospitable): it was sometimes also called simply *Πόντος* (the sea). The Turkish name is *Caca Denisi*, and the Russian *Czorno More*, both being literally translated in the term Black Sea.

BLACKWALL, a hamlet of England, co. Middlesex, par. Stepney, at the confluence of the Lee with the Thames. 5 m. E. St. Paul's, being in fact a suburb of London. Here are the E. and W. India Docks, for an account of which see LONDON.

BLAIN, a town of France, dép. Loire Inférieure, cap. cant., near the right bank of the Isac, 22 m. NNW. Nantes, on the railway from Nantes to L'Orient. Pop. 6,781 in 1861. The castle, of which only a small part now remains, was formerly one of the strongest in Bretagne. It was partly demolished in 1629. Calvinism was early introduced into this town, a synod having been held here in 1566, at which there were reckoned above 1,200 Protestants.

BLAMONT, a town of France, dép. de la Meurthe, cap. cant., on the Vezouze. Pop. 2,800 in 1861. The town was burnt down in 1527 and 1636. It produces yarn for hosiery, and has considerable tanneries.

BLANC (LE), a town of France, dép. Indre, cap. arrond., on the Creuse, in a pleasant situation, 83 m. WSW. Chateauroux, on the railway from Paris to Bordeaux. Pop. 5,882 in 1861. The town is divided by the river into two parts, called the high and low towns: both are ill built, particularly the former, the streets of which, besides being narrow and crooked, are also precipitous. It is the seat of a tribunal of original jurisdiction. There now remain but few traces of its ancient fortifications, which, however, were once strong enough to resist several sieges. This is a very ancient place, and was often frequented by the Roman legions. The road from Le Blanc to St. Savin is still called the *Levé de César*.

BLANCO (CAPE), a celebrated cape on the W. coast of Africa; lat. 20° 46' 26" N., long. 17° 4' 10" W. This cape, which was discovered by the Portuguese in 1441, forms the extremity of a rocky ridge, called the Geb-el-reid, or White Mountain, projecting into the sea in a S. direction. Inside the cape is a spacious bay, which has on its SE. side the bank and town of Arguin.

BLANDFORD FORUM, a par., bor., and town of England, co. Dorset, hund. Coomb's Ditch, Blandford (or N.) div., 98 m. SW. London, on the London and South Western railway. Pop. of parish 8,349 in 1841, and 8,900 in 1861. It is a neat little town; is situated on a bend of the Stour, amidst one of the finest tracts of sheep pasture in the kingdom; a six-arched bridge crosses the stream, and there are two others to facilitate the communications of the town during occasional floods. The houses are uniform brick structures, arranged in regularly-formed, and well paved and lighted streets. The church is a modern building in the Grecian style, with a tower and spire. There are also an Independent chapel, a free grammar school, and a blue-coat school, each with small endowments; almshouses, supporting ten old people; a charity producing 120*l.* a year, for apprenticing poor boys; and another, now producing 800*l.* a year, originally left for the purpose of educating four poor children. There is a handsome town-hall, and a neat theatre; and on a fine down, near the town, annual races are held in August. The weekly market is held on Saturday, and three annual fairs on March 7, July 10, Nov. 8: they are for horses, cattle, and cheese. A manufacture of shirt-buttons employs many women and children of the town and neighbourhood, but it is

much less extensive than formerly. The borough was incorporated by charter of 3rd of James I., which also granted the manor. Under the Municipal Reform Act there are four aldermen and twelve councillors, and the limits of the borough are restricted to the town, where 99 of every 100 of the pop. of the par. reside. The revenue of the corporation is derived from tolls of the market and fairs, lands, and quitrents, and averages about 225*l.* a year: they hold a court leet annually. A court of record was granted by the first charter, which has long been disused. Petty sessions for the Blandford div. are held in the town, by the co. magistrates; and monthly courts of the bishop and archdeacons of the diocese. It is also a polling town for the county, and the central town of a union of 33 parishes, under the Poor Law Act: it has three guardians. Its rates amount to 1,350*l.* Archbishop Wake was a native of the town; and it gives the title of marquis to the Marlborough family.

BLANKENBURG, a town of the Duchy of Brunswick, cap. distr., and formerly of the principality of Blankenburg, on a rivulet of the same name, 37 m. SSE. Brunswick. Pop. 3,980 in 1861. The town is surrounded by walls, has some good buildings, including a gymnasium and a school of industry. On a hill immediately adjoining the town is a large heavy-looking palace of the duke of Brunswick: it had a good collection of pictures, but the best of them have been removed. On the summit of the Regenstein, also at a short distance from the town, are the remains of a large castle, constructed by Henry the Fowler, in 919, consisting of chambers cut out of the rock.

BLANTYRE, a parish of Scotland, co. Lanark, in which manufactures have made great progress. The Blantyre mills, in the village of Blantyre, on the Clyde, 3 m. W. Hamilton, and 8 m. SE. Glasgow, were erected in 1785, for the spinning of water twist. In 1791, another mill was built for mule twist, both moved by water power. In 1813, a cotton-weaving factory was established, which employed soon after nearly 500 hands, the moving power being partly water and partly steam. The dyeing of Adrianople or Turkey red on cotton yarn has been carried on here from the year 1800. The total number of hands employed in these various works, exclusive of the hand-loom weavers, is about 1,000, of whom considerably more than a half are females. There is a school connected with the mills. There is also a library for the use of the workmen, a funeral society, and a society for religious purposes, all established by the workmen.

BLAYE, a sea-port and fortified town of France, dép. Gironde, cap. arrond., on the right bank of the Gironde, 34 m. NNW. Bordeaux: lat. 45° 7' N., long. 0° 40' W. Pop. 4,972 in 1861. A railway, which has its terminus on the opposite bank of the river, connects Blaye with Bordeaux. The port is divided into the high and low towns; the former, however, is merely the castle or citadel, built on a rock commanding the Gironde. The river is here about 2½ m. wide; and for its defence Fort Pâté has been constructed on an island in its channel, about 1,000 yards from Blaye, and Fort Medoc on the opposite side of the river. All vessels inward bound are required to anchor in the port or road of Blaye, and deliver a manifest of their cargo, and many of the outward-bound ships call here to take on board provisions, and complete their cargoes. The town has also a considerable direct trade, exporting wine, brandy, corn, oil, soap, timber, apples, &c. Many of the pilots, so indispensable to ships navigating the Gironde, reside in Blaye. It has tribunals of original juris-

diction and of commerce, an agricultural society, a theatre, &c. In the centre of the town is a fine public fountain. Blaye is very ancient. In 1568 it was taken by the Protestants, and more recently by the Leaguers. The extensive marshes by which it was formerly surrounded having been drained by Henry IV., have become very fruitful of corn and other products. In 1832, the Duchess of Berri, when confined in the castle of Blaye, was brought to bed of a daughter.

BLEICHERÖDE, a town of Prussia, prov. Saxony, reg. Erfurth, between the Bode and the Wipper, 10 m. SW. Nordhausen. Pop. 2,830 in 1861. The town has some oil-mills and fabrics of serges and other descriptions of woollen cloth.

BLENHEIM, or **BLINDHEIM** (Germ. 'Home of the Blind'), a small village of Bavaria, circ. Upper Danube, on the Danube, near Höchstädt. Pop. 725 in 1861. This village is famous in modern history as being the scene of the great battle, fought Aug. 13, 1704, between the English and Imperialists, under the Duke of Marlborough and Prince Eugene, and the French and Bavarians, under Marshals Tallard and Marsin and the Elector of Bavaria. Each army consisted of nearly 80,000 men. The English and their allies gained a complete and decisive victory. Their enemies left above 10,000 men killed and wounded on the field; a vast number more were drowned in the Danube, and above 13,000 were made prisoners; among the latter were Marshal Tallard (whose son was killed) and many other officers of distinction. All the artillery, baggage, &c. of the French and Bavarians fell into the hands of the conquerors. The loss of the latter, though severe, was not greater than might have been expected, having amounted to about 5,000 killed and 8,000 wounded.

BLENHEIM PARK, an extra-parochial district of England, co. and liberty of Oxford, 60 m. WNW. London. Area 2,700 acres, being the demesne attached to Blenheim House, an edifice erected in the reign of Anne, as a token of the national gratitude for the public services rendered by the first Duke of Marlborough: for which purpose 500,000*l.* was voted by parliament, and the queen added the honour of Woodstock (an ancient property of the crown) to the grant. It was called Blenheim from the great battle noticed above. The usual entrance to this splendid domain is from the Woodstock side, under a triumphal archway of the Corinthian order, erected by the first duchess. Fronting the palace is a fine sheet of water, partaking of the character both of a lake and river, and winding away through a deep vale: this is spanned by a magnificent bridge, and on an eminence beyond the bridge, in the midst of a fine lawn, is a fluted Corinthian pillar, 130 ft. high, surmounted by a statue of the duke in a Roman dress; on one side the pedestal is an inscription (written by Lord Bolingbroke) reciting his public services; on the others, the acts of parliament declaratory of his services, and abstracts of the entail of his estates and honours. The mansion occupies three sides of a parallelogram, the principal front being N., and the E. and W. sides forming wings for the domestic offices, stables, &c.; a terrace with several flights of steps gives due effect to the elevations. The north or principal front extends 348 ft. from wing to wing; it has five compartments, and is highly enriched, especially the central one, which has a Corinthian portico and fine pediment at the height of two floors; over which is an attic story. The south or garden front is of a plainer character; but its compartments correspond with the other, and a flight of steps leads to a portico, over the entablature of which is a colossal bust of Louis XIV.,

taken from the gateway of Tournay. The interior is magnificently finished, and contains a fine collection of sculptures, paintings, and tapestry. A well-known satirical couplet raised a prejudice against this noble pile, which prevented, for a lengthened period, a fair estimate being formed of its merits. The details have been severely criticised; and some of them may be open to censure. But whatever may be the defects of particular parts, they are lost in the *tout ensemble*. The general effect of the building is excellent; its parts seem to be admirably combined, and it has a most magnificent appearance. It is now, indeed, admitted by general consent to be a noble proof of the genius of its architect, Sir J. Vanburgh, as well as an 'illustrious monument of Marlborough's glory, and of Britain's gratitude.'

BLÉRÉ, a town of France, dép. Indre et Loire, cap. cant., on the Cher, 17 m. ESE. Tours, near the railway from Tours to Bourges. Pop. 3,477 in 1861. The castle of Chenonceaux, once the property and residence of the celebrated Diana of Poitiers, is situated in the immediate vicinity of Bléré. Diana, having been dispossessed of the castle by her rival, Catherine de Medici, the latter surrounded it with a superb park. After many vicissitudes, it was acquired, in 1733, by M. Dupin, a gentleman distinguished by his wealth and learning, but more by the wit and beauty of his wife. Under its new master Chenonceaux became the resort of some of the most illustrious personages of the 18th century, including, among others, Voltaire, Montesquieu, Buffon, Fontenelle, and Bolingbroke. Rousseau wrote several pieces for the theatre of Chenonceaux, and it was here that the *Devin de Village* first appeared. Chenonceaux escaped the revolutionary frenzy, and continues to be one of the most interesting objects in this part of France.

BLETCHINGLY, a par. and town of England, co. Surrey, hund. Tannridge, 16 m. S. of London, on the South-Eastern railway. Pop. of parish 1,691 in 1861. The town is situated near the end of the chalk range that traverses the co., and commands extensive views. The church is a fine specimen of the earlier Gothic style: there is an endowed school for 20 boys, 11 almshouses, and several small charitable donations. There are 2 annual fairs, held June 22, and Nov. 2; the latter is for horses, pigs, and lean cattle. Its ancient weekly market has been long discontinued. The inhab. are chiefly engaged in agriculture: the upper part of the par. (in which the town is situated) is a sandy and chalky soil, the lower part clay. Bletchingly returned 2 mem. to the H. of C. from the 23d of Edw. I. till the passing of the Reform Act, by which it was disfranchised; the right of election was in the holders of burgrave tenures, amounting to 130. A castle, built soon after the Conquest, formerly stood on the brow of a hill at the W. end of the town. There are some vestiges in this parish of the residence of Earl Godwin, who retreated hither when his Kentish estates were inundated: the railway passes through it, on the N. side.

BLOIS, a town of France, cap. dép. Loir et Cher, on the acclivity of a hill on the right bank of the Loire, 35 m. SSW. Orleans, on the railway from Paris to Bordeaux. Pop. 20,231 in 1861. Blois is neither a large, a well-built, nor a handsome town: on the contrary, many of its houses are mean and its streets narrow, crooked, and sometimes not accessible to carriages; but it is remarkable from the beauty of its situation, its antiquity, its monuments, and the historical events of which it has been the theatre. At one extremity of the town is the castle, and at the other

the cathedral. The former is an immense pile, built at different epochs and in different styles of architecture. Louis XII. was born in this castle; and in it also Margaret of Anjou was married to the Duc d'Alençon, and Margaret of Valois to Henry IV. But it derives its principal interest from events of a very different character. Here, in December, 1588, the Duc de Guise, and his brother the Cardinal, were basely murdered by the order, and almost in the presence, of Henry III. This also was the scene of the imprisonment of Mary, and of the death of Catherine de Medici. The last rays of glory fell on this castle in 1814, when Maria Louisa held her court in it after the capitulation of Paris. It is now occupied as a barrack. The cathedral is a handsome edifice; but the finest building in the town is the hotel of the prefecture, formerly the episcopal palace. The view from its gardens is extensive and fine. In the church of St. Vincent are fine monuments to Gaston, Duc d'Orleans, and a daughter of that prince. A suburb on the opposite side of the river is connected with the town by a handsome bridge of 11 arches, begun in 1717. The most ancient monument in the town is a superb aqueduct, ascribed to the Romans, cut in the solid rock. It is in excellent preservation, and conveys the waters of several springs, a distance of about half a mile, to a reservoir close to the town, whence they are distributed among public fountains dispersed in different parts of the city. Blois is the seat of a bishopric, a court of original jurisdiction, a departmental college, a diocesan seminary, and a secondary ecclesiastical school; a botanical garden, founded by Henry IV.; a public library, with 19,000 volumes; a royal society of agriculture; a departmental nursery, &c. It has also a port, well frequented by the craft navigating the Loire; a theatre, an abattoir, and a *dépôt d'étalons*. It produces serges, hosiery, and gloves, cutlery and hardware, and leather, and has a considerable trade in wines, spirits, vinegar, firewood, and staves, liquorice, and other articles. Bernier, the celebrated Eastern traveller, was a native of Blois.

BLYTHE (S.) or BLYTH NOOK, a sea-port town of England, co. Northumberland, on the Blyth, 12 m. NE. by N. Newcastle-on-Tyne, and 8 m. SE. by E. Morpeth. Pop. in 1801, 1,283; in 1831, 1,944; and 1,958 in 1861. It will be seen that the pop. is almost on a standstill. The town is situate on the S. side of the river, where it discharges itself into the German Ocean, and consisted till lately of a few narrow ill-laid-out streets; but modern improvements are giving it a new aspect. Its church is a chapel of ease to the parish church of Earsdon: Methodists, Presbyterians, and other dissenters have places of worship. The coal trade is carried on to a considerable extent, and iron from the Bedlington works is largely exported. The harbour is excellent for ships of small burden, affording free entrance and safe anchorage in all seasons; and the coast for some miles is peculiarly adapted for bathing. There is here a dry dock, a custom-house dependent on that of Newcastle, a lighthouse, and a beacon-light.

BOAVISTA, the most easterly of the Cape de Verde islands, which see.

BOBBIO, a town of Northern Italy, prov. Genoa, on the Trebbia, 34 m. NE. Genoa. Pop. 4,530 in 1858. The town is surrounded by walls, and is the seat of a bishopric, and of a tribunal of original jurisdiction. It was ceded to Sardinia in 1743, by Austria.

BOBROV, a town of Russia in Europe, gov. Voronege, on the Bitioug, 52 m. SE. Voronege;

lat. 50° 5' N., long. 40° 10' E. Pop. 3,592 in 1858. The town has two churches, and includes a large space laid out in gardens. It derives its name from the number of beavers (*bobry*) formerly found in its vicinity.

BOBRUISK, or **BOBRISK**, a town of Russia in Europe, gov. Minsk, on the Bobruia, where it falls into the Berezina, cap. dist. 90 m. N.E. Minsk. Pop. 22,055 in 1858. The town was strongly fortified in 1810 and 1812, and was ineffectually attacked by the French during the last of those years. It has four churches and a gymnasium.

BOCHNIA, a town of Galicia, cap. circ., near the Raba, 25 miles ESE. Cracow, on the railway from Cracow to Vienna. Pop. 5,500 in 1857. The town has a gymnasium, and a board for the administration of mines and salt-works. For an account of the latter, which are very extensive, see WIELICZKA.

BOCHOLD, or **BOCKHOLT**, a town of Prussia, prov. Westphalia, reg. Munster, on the Ahé, 15 m. ENE. Cleves. Pop. 5,183 in 1861. There are rich iron-mines in its vicinity; and it has some trade in corn and spirits, with manufactures of cotton and silk.

BOCHUM, a town of Prussia, prov. Westphalia, reg. Arnsberg, cap. circ., 25 m. NE. Düsseldorf, on the railway from Düsseldorf to Münster. Pop. 9,855 in 1861. The town has three churches and a college, and manufactures of cloth, steel, iron, and jewellery.

BOCKING, a par. and village of England, co. Essex, hund. Hincford: area of par. 3,800 acres. Pop. 3,555 in 1861. The village, almost contiguous to Braintree, and 81 m. E. by N. London, consists principally of a single street, extending along the high road from London to the E. counties. There are several corn and fulling mills on the river Brain. It has a free school, endowed by Dr. Gauden, bishop of Worcester, for the education of 30 boys; an almshouse, founded in the reign of Henry VI.; and some other charities. (See BRAINTREE.)

BODMIN, a bor. and town of England, co. Cornwall, hund. Trigg, 25 m. W. by N. Plymouth on the Great Western railway. Bodmin is nearly in the centre of the county, is built on a gradual acclivity, between two hills, and consists chiefly of one main street nearly a mile in length. The houses are an intermixture of low irregular ancient structures, and neatly built modern ones. The church (rebuilt about A.D. 1472) is a spacious structure in the later Gothic style, situated in the vale of the E. end, whence the town gradually ascends. The Calvinists, Wesleyans, and Bryanites have each chapels. There is an endowed grammar-school, founded by Elizabeth, and a national girls' school. The town-hall was originally the refectory of St. Austin's Priory; each of its ends are fitted as courts of justice, and the intermediate area used as a corn-market; over the whole are grand jury and public assembly-rooms. The population of the municipal borough was 4,466, and of the par. borough 6,381 in 1861. The par. boundaries comprise the entire parish, and also the adjoining parishes of Helland, Lanivet, and Lanhidrock, in all an area of 16,800 acres. It has returned 2 mem. to the H. of C. since the 23d of Edw. I.; the right of election having been vested, previously to the Reform Act, in the corporation. In 1864 there were 408 registered electors. The market is held on Saturday, and it has several fairs. The chief manufacture is shoes, of which a considerable number are made, and sold at the different markets and fairs of the county. A branch railroad, commencing at Wade bridge (at the head of Padstow harbour), about

6 m. in a NW. direction, terminates at the back of the town, by which coals and other articles are brought to it, as well as lime and sea sand to the agricultural district through which it passes. Bodmin is governed by a mayor, 3 aldermen, and 12 councillors. It is a stannary town, and had at an early period the privilege of stamping tin. The summer assizes, 8 of the general quarter sessions, and the election courts for the E. division of Cornwall, are held here.

BEOTIA, a famous region of ancient, and now of indep. Greece, prov. E. Hellas, and forming the N. part of the monarchy of Attica and Boeotia, between lat. 38° 9' and 38° 44' N., long. 22° 53' and 23° 49' E.; shape triangular, having NW. Phocis, N. the Opuntian Locris, NE. the channels of Talanda and Egripio, and S. Attica and the Corinthian Gulf; length E. to W. about 42 m.; greatest breadth 27 m.

Its mountains, the most celebrated of which is Zagora (an. *Helicon*) mostly surround or divide it into two principal basins, those of the Cephissus and Thebes. Its chief rivers are the Gargyros (*Cephissus*) and the Asopo (*Asopus*). It contains three lakes, those of Topolias (*Copais*), Sarzina (*Hylica*), and Paralimni; the first the largest in Greece. It is a high, but well-watered region; and as many of the streams find their way, and the lakes a vent to the sea, only by means of subterraneous courses, marshes abound; and the atmosphere is damp, foggy, oppressive, and unhealthy in some places, as at Livadia, where intermittent fevers are prevalent. The fertility of Boeotia is, however, such, that it has always an abundant crop, though elsewhere famine should prevail. The land is well cultivated, especially with wheat, rice, madder, cotton, maize, hemp, and tobacco. Helicon is clothed in its lower parts with evergreens; above these there is a forest of pines, and its top is often capped with snow; kermes oak grows abundantly, and 6,000 oaks (258,000 lbs.) of gall-nuts are collected yearly. The lake Topolias still produces the reeds anciently so celebrated for rustic flutes, and Boeotian pipers are still in high repute. Most of the cottages in the neighbourhood are built of these reeds. Flocks of bustards inhabit the banks of Topolias; and its large eels, dried and salted, form a considerable article of trade. Many spots in Boeotia present striking scenery. It forms two eparchies, those of Thebes (*Thiba*) and Livadia, which are its two principal towns.

BOGENDORF, a village of Prussia, Silesia, reg. Liegnitz, 18 m. WSW. Sagan. Pop. 1,750 in 1861. The village has in its vicinity mines of the precious metals, and of copper and lead.

BOGLIPOOR. See BHAUGULPORE.

BOGNOR, a marit. town and chapelry of England, co. Sussex, rape Chichester, hund. Aldwick, par. S. Bersted, 56 m. SW. by S. London, at the terminus of a branch line of the London, Brighton, and South Coast railway. Pop. 2,523 in 1861. The town is situated on the coast between Seley Bill and Worthing, amidst rocks that extend in a curving direction 2 or 3 m. into the sea, and make it inaccessible except to the smaller class of coasting vessels; there is a good beach, and every accommodation for bathing. Previously to 1780 it was a small fishing village, and this is still the occupation of its resident population, who send their produce to the London market. In the above year Sir R. Hotham commenced building a villa and some good lodging-houses, since which this watering-place has continued to enlarge, and forms a favourite resort for those who seek retirement, rather than gaiety, in occasional change of scene. It is sheltered on the N. by the South Down hills,

a range extending from Portstown to Dover. The Portsmouth and Arundel Canal passes within 8 m. There are Episcopal, Independent, and Wesleyan chapels; a school, in which 20 girls are clothed and educated; another (founded by the late Princess Charlotte) for 50 girls; and good hotels and lodging-houses for the accommodation of visitors. The regulation of the town is placed under commissioners (by an Act of Parliament), who meet monthly, and levy a duty of 2s. a chaldron on coals, to defray the expenses of repairing roads, &c. Weekly markets are held, in a spacious modern market-place, on Thursday and Saturday, and an annual fair on the 5th and 6th of July.

BOGODOUKHOF, or **BOGODUCHOW**, a town of Russia in Europe, gov. Kharkof, cap. distr., on the Merlo, 60 m. N.E. Poltava; lat. 50° 2' N., long. 35° 50' E. Pop. 10,600 in 1858. The town is surrounded by a rampart and a ditch. The inhabitants are principally employed in tanning and dressing leather, and making it up into boots and shoes; they also carry on a considerable trade in cattle and hides.

BOGORODITSK, a town of Russia in Europe, gov. Tula, cap. distr., at the confluence of the Lesnoi-Oupert and the Viarkova, 40 m. S.S.E. Tula. Pop. 4,504 in 1858. The town has an Imperial castle and four churches. The country round is productive of corn, hemp, flax, and honey, which form the principal objects of the trade of the town.

BOGOTA (formerly *Santa Fé de Bogotá*), a city of Colombia, of which it is the cap. and the seat of the government, on an elevated plateau at the foot of Mount Chingass, 8,615 ft. above the level of the sea; 225 m. E. the Pacific Ocean, 50 m. E. the river Magdalena, 65 m. S.E. Houda, and 134 m. N.E. Neyva; lat. 4° 37' N., long. 74° 10' W. Pop. from 30,000 to 40,000. Owing to its elevation, the city enjoys a fine and equable temperature; the climate, however, is exceedingly humid, though not unhealthy. The first appearance of the town from the N.W. is very imposing: being built on rising ground, it forms a sort of amphitheatre, and the white towers of the cathedral and the monasteries of Montserrat and Guadalupe are seen seated on lofty peaks behind it. Streets generally narrow, but regular, intersecting each other at right angles, and some having a stream of water constantly flowing down the middle; all of them are paved, and the principal ones have footpaths. The chief street, or *Calle Real*, has at its extremity the *plaza mayor*, or principal square, where the market is held; it is formed by the cathedral, the palace of the president, and the custom-house. Bogota being subject to frequent earthquakes, the houses are low, with thick walls, elegance being commonly sacrificed to solidity. Nearly half the area of the city is occupied by religious structures; there are 26 churches, besides the cathedral, 9 monasteries, and 8 nunneries; and four-sixths of the houses in Bogota are said to belong to them. The cathedral, built in 1814, and distinguished by the simplicity of its interior, was destroyed by an earthquake in 1827. Most of the other churches are more remarkable for gorgeousness and gilding than for taste; gems are lavished in profusion upon the statues. The palace of the former viceroys of New Granada, now occupied by the president of the republic, can boast no architectural beauty. The mint is a large plain building. There are three sets of barracks, two *cuartels*, and an artillery depot, where all military equipments are made, and articles of European manufacture repaired; some of the convents have hospitals attached, but they are wretchedly conducted, and very dirty. It has a university and three colleges, the principal of which belongs to the Jesuits; a school of chemistry

and mineralogy; a Lancastrian school on the most liberal principles; a national academy; and a public library. There is a theatre, a well-constructed building, and well attended; but the performances are bad. The private houses in Bogota are constructed of sun-dried brick, whitewashed, and tiled; latterly their style has been considerably improved. Beams are now concealed by a ceiling; glass has been introduced into, and barricades removed from, the windows; the street doors are better painted, and light balconies have begun to supersede enormous and heavy galleries. In general, the houses are built with a court in the centre, round which runs a gallery or a covered terrace. The furniture is simple, but European carpets and other manufactures are now in very general use. There are no chimneys, stoves only being used. In the principal streets, the ground floors are occupied by shops; these are, however, dirty and dark, and the only admission for daylight is by the door. Almost every inhabitant, not in the employ of government, in the church, or in the army, is a shopkeeper. 'Seated upon his counter, smoking incessantly, and giving laconic answers to his customers, the Colombian merchant in many respects resembles those of Smyrna or Aleppo.' The city is very badly lighted; there are no common sewers; and the filth being cast into the streams that run through the streets renders them infectious. Owing to the scantiness of the population, and the want of carriages, some of the streets are overgrown with grass. The market is well and cheaply supplied with provisions; but European manufactures are said to be extravagantly dear. There are no carts or vehicles of any description, traffic being carried on exclusively by mules. The environs of Bogota are agreeable, but little frequented, the favourite promenade being the *alameda*, or public walk, at one of the entrances to the town. The costume of the females is peculiar. Rich and poor dress alike out of doors: the mantilla is worn; a piece of blue cloth envelopes the head, and covers all the features excepting the eyes, reaching to the waist; and the whole is crowned by a broad-brimmed beaver hat. The women of Bogota are generally acknowledged to be handsome; their complexions are fair and clear; their physiognomy is Spanish. Visiting, evening parties, balls, masquerades, and religious processions are their chief amusements; as bull-fights, cock-fights, the theatre, and gambling are those of the men.

Bogota was founded by Gonzalo Ximenes de Quesada, who built twelve huts here in 1538; in 1548 it was created a city, and made the seat of a royal *audiencia*; and in 1561 advanced to the honours of a metropolitan see. It was the capital of New Granada, while a colony of Spain; a distinction which, since the war of liberation, it has changed for the greater one it at present enjoys, as the head city of a free state.

BOGWANGOLA, an incl. town of Hindostan, prov. Bengal, 8 m. N.E. Moorsheadabad; lat. 24° 21' N., long. 88° 29' E. It is built entirely of bamboo, mats, and thatch; but is a place of considerable trade, and from hence the cap. of the district is chiefly supplied with grain.

BOHAIN, a town of France, dép. Aisne, cap. canton, 16 m. N.N.E. St. Quentin, on a branch line of the Northern of France railway. Pop. 5,051 in 1861. It has a fabric of German clocks à *carillon*, and produces shawls and gauzes.

BOHEMIA (German *Böhmen*, Boh. *Czech*) (**KINGDOM** of), an inland country, occupying the centre of Europe, and forming an important portion of the Austrian empire, between lat. 48° 34' and 51° 8' N., and long. 12° 5' and 16° 46' E.,

having NE. Prussian Silesia, N. and NW. Saxony, SW. Bavaria, and S. and SE. the archduchy of Austria and Moravia. Shape, an irregular rhomboid; greatest length, E. and W., 200 m.; greatest breadth, N. to S., 170 m. The total area of the kingdom amounts to 902,85 Austrian, or 20,285 English square miles. The population numbered 3,828,749 in 1881, and had increased, at the general census of Oct. 31, 1887, to 4,705,525. About two-thirds of the number speak the Slavonic, and the rest the German language. Bohemia is more densely populated than any other part of the Austrian empire.

Mountains and Rivers.—Bohemia is a basin, surrounded on every side by mountain-ranges, which in some parts rise to upwards of 5,000 ft. in height. From the Fichtelgebirge (pine mountains), near the W. extremity, the chain called the Erzgebirge (ore mountains) runs NE., forming the boundary between Bohemia and Saxony, as far as the exit of the Elbe from the first-mentioned country. The highest point of this range is the Schwarzwald, about 4,000 ft. above the sea; parallel to it is the Mittelgebirge (midland mountains), which runs as far as the l. bank of the Elbe. From the r. bank of the Elbe, E. and SE., forming in part the frontier against Prussia, run a series of chains entitled successively the Lannitzer, Iser, Riesen (giant), and Sudetengebirge, the loftiest point of which, the *Snow-cap*, is from 5,200 to 5,400 ft. in height. The SW. border is formed by the Böhmerwald, or Bohemian forest mountains, included in the Hercynian forest of the ancients, and a branch from the Fichtelgebirge: they are wild and precipitous, and contrast remarkably with the Moravian chain in the SE., which is of gentle ascent, varying from 2,000 to 3,000 ft. in height, and separating the affluents of the Elbe from those of the Danube. Within these boundaries, Bohemia presents an undulating surface, with an inclination for the most part towards the N.; its hills are sometimes steep, and even precipitous, but rising generally no higher than about 500 or 600 ft. above the level of the sea.

Bohemia forms, in fact, an elevated plateau, sloping towards the N., and drained by the Elbe, which traverses two-thirds of its breadth, and receives the numerous brooks and streams that descend from its lofty barriers. The sources of this great river are in the Riesengebirge mountains, whence it descends, in a S. direction, to Pardubitz, and thence W. as far as Melnik, where, after receiving the Moldau, it becomes navigable. In its course to the frontier of Saxony, it is joined besides by the Adler, at Königgrätz, the Iser, and the Eger; the Wattawa, Sasawa, Beraunka, and Luschnitz fall into the Moldau before its junction with the Elbe. The Moldau is navigable from Budweis, and a railway between that town and Linz, on the Danube, completed as early as 1824, forms a connecting link of communication between the German Ocean and the Black Sea. This Budweis-Linz railroad was one of the first in Europe; but being only adapted to carriages drawn by horses, and having to pass over considerable heights, which occasion much difficulty and expense in transporting goods, the advantages it afforded were insufficient to divert the course of trade into this new channel.

Minerals.—The mineral riches of Bohemia are of considerable importance and value. From the 13th to the 17th centuries, considerable quantities of gold and silver were obtained; the first is now, however, no longer met with, except occasionally in small quantities, in the beds of some of the streams; but above 20,000 marks of silver are still obtained annually from the lead mines. The latter

produce about 60,000 cwts. a year of lead and litharge. Iron is found in most parts of the kingdom, but the product is but trifling, not exceeding from 15,000 to 20,000 tons a year. There are also tin mines (the only ones in the Austrian dominions), with mines of copper, zinc, cinnabar, arsenic, cobalt, &c. Coal is pretty abundant, particularly in the N. parts of the kingdom; and the produce, which has increased very rapidly of late years, is above 100,000 tons a year. There are a great variety of mineral springs, those of Töplitz, Carlsbad, and Seidlitz having a European reputation. About 800,000 bottles of water from these springs are annually exported. All the salt used in Bohemia is imported. The working of the mines is superintended by two mining commissions, at Joachimsthal and Příbram. Under these are 23 interior mining courts and branches, the miners having their own codes of law and especial courts of justice; the whole is controlled by a department of the ministry of finance at Vienna.

Climate very healthy, but, from the elevation of the country, it is, on the whole, rather cold. In the mountainous regions, the snow, which often lies 12 ft. deep, does not disappear until April; the mildest climate is that of the valley of the Elbe. At Prague, the mean temperature of the year is about 47° Fahr. The prevalent winds are westerly.

Soil and Agriculture.—The soil of Bohemia consists principally of a clayey loam, but in parts sandy loams and sand predominate. In some of the mountainous circles there is a good deal of waste land; but, speaking generally, the valleys are very fertile. The finest land is in the circle of Saaz. Of the total area of the kingdom, amounting to 20,285 Eng. sq. m., or 12,982,000 Eng. acres, it is estimated that 11,050,678 acres are under culture or otherwise productive, being distributed as follows:—Arable lands, 5,532,509 acres; common pasture lands, 869,662 acres; woods, 3,393,215 acres; vineyards, 6,357 acres; meadows and gardens, 338,930 acres; the rest being barren mountains, water, roads, and other uncultivable lands. Here, as in all the rest of Germany, rye forms the principal crop, and next to it is oats, and then barley and wheat. Potatoes are now very extensively cultivated, particularly in the mountainous districts, where they form the greater part of the food of the people. Flax and hemp are principal objects of attention, and supply the material for the staple industry of the country. Hops, which are excellent, are raised in considerable quantities, about 12,000 cwt. being annually exported to Bavaria only. The culture of beet-root, with a view to the manufacture of sugar, has of late years increased very rapidly; there were, in 1865, above 100 factories in operation. Some wine is made, but the quality is very inferior, and beer is the national beverage. Until recently, but little attention has been paid to stock husbandry; latterly, however, considerable efforts have been made to improve the breeds, and these have been very successful, particularly in the case of the sheep. The supply of cattle is inadequate for the consumption, and there is annually a large importation from Poland and Hungary.

On the whole, agriculture in Bohemia, though a good deal improved, is still in a very backward state. This, no doubt, is ascribable to a variety of causes; but principally, perhaps, to the depressed state of the peasantry, and the want of leases. Most of the land is parcelled out into immense estates; and these are cultivated, either by peasants employed by, and working on account of the landlord, or by petty occupiers, paying a labour rent for their land. Mr. Gleig has given some

curious details in reference to this subject in his *Travels in Germany, Bohemia, &c.* 'Of large towns,' he says, 'there seems to be, in Bohemia, very few; but every vale and strath is crowded with human dwellings; village succeeding village, and hamlet treading on hamlet, with the most remarkable fecundity. On the other hand, you may strain your eyes in vain in search of those species of habitations which give to our English landscapes their peculiar charm. There is no such thing in all Bohemia—I question whether there be in all Germany—as a park; and as to detached farm-houses, they are totally unknown. The nobility inhabit what they term *schlosses*, that is to say, castles or palaces, which are invariably planted down either in the very heart of a town or large village, or at most a gun-shot removed from it. No sweeping meadows surround them with their tasteful swells, their umbrageous covers, and lordly avenues; no deer troop from glade to glade, or cluster in groups round the stem of some giant oak, their favourite haunt for ages. But up to the very hall door, or at least to the foundations of the wall which girdles in the court-yard, perhaps 12 or 20 ft. wide, the plough regularly passes. A garden, the *graf* generally possesses, and his taste in flowers is good; but it almost always happens that his very garden affords no privacy, and that his flowers are huddled together within some narrow space, perhaps in the very court-yard of which I have already spoken as alone dividing his mansion from the open and cultivated fields. With respect, again, to the condition of the cultivators, that is, in all respects, so different from the state of our agricultural gentlemen at home, that, even at the hazard of saying over again what has been stated a thousand times already, I must describe it at length. In the first place, then, there is no class of persons in Bohemia corresponding to our English farmer. Nobody hires land in order to make a profit out of it, at least nobody for such a purpose hires a large tract of land; but each individual cultivates his own estate, whether it be of wide or of narrow extent. Thus the *graf*, or prince, though he be the owner of an entire circle, is yet the only farmer within that circle. He does not let an acre of ground to a tenant; but having built what he conceives to be an adequate number of *bouerin*-houses, he plants in each of these a *bouer*-man, and pays him for tilling the ground. These *bouerin*-houses, again, are all clustered together into villages, so that the *bouer*-man is never without an abundant society adapted to his tastes; and very happily, albeit very rudely, his days and nights appear to be spent.

'The land in Bohemia does not, however, belong exclusively to any order in the community. Many *bouer*-men are owners of their farms, some of them to the extent of 100 acres and more; while almost every township has its territories, which, like the noble's estate, are cultivated for the benefit of the burgh. But in all cases it is the owner, and not the cultivator, to whom the proceeds of the harvest belong. These are, indeed, gathered in and housed for him by his representatives, who, in addition to some fixed money payments, for the most part enjoy the privilege of keeping a cow or two on the wastes belonging to the manor; but all the risk and trouble of converting his grain into money attaches to the proprietor of the soil.' (ii. 19.)

But though by far the larger portion of the land be cultivated in the way described, by hired labour, still it is certain that a good deal is let in Bohemia, as in all similarly situated countries, not for money or a quantity of produce, but for a certain amount of labour to be performed on the estate of the lord, which amount is regulated by a law

called the *Roboth-patent*. Mr. Reeve, in his *Sketches of Bohemia*, has the following statement as to the relation subsisting between the lords and those occupying their estates, under this system:—

'The subjects, as they are termed, are all registered in the books of the estates; the lord collects the king's taxes, besides his own dues, and sends an annual supply of recruits to the imperial army. He has the power of expelling misdeameanants from his estate, and he exercises a certain control over his subjects; but the peasants are by no means attached to the soil; and they may always appeal to the courts of justice against their lord, with a proverbial certainty (such is the policy of the government) of gaining their cause. On the other hand, the lord represents the government to his peasants, and the peasants to the government; and whilst he is accountable to the justice of the country, he has it in his power to exercise a beneficial influence over the lower orders. He provides for their instruction; he introduces improvements, and encourages trade; he increases their commercial relations; he arbitrates in their disputes; and in proportion to his fulfilment or neglect of these functions, the estate is prosperous or poor. It often happens that the nobility and gentry have acquired a purely German character, in accordance with that of the Austrian government, but very much opposed to the national spirit and national wants of the Bohemian people. All the ancient seigniorial rights which were not legalised and regulated by Joseph II., as the *Roboth* dues, &c., were abolished by that monarch. But the tradition of feudal attachment and of feudal obedience still exists amongst the people: thus, although the consent of the lord is not legally required to a marriage between his peasants, it is generally asked, and considered indispensable. The possessions of some of the Bohemian nobles are immense; Prince Schwartzenberg owns one-eighth of the country; and the estates once held by the great Wallenstein were so vast as to have formed the appanage of six great families after his death and attainder.' (Metropolitan Mag., April 1837.) This state of things still exists in part, although modern political and social reforms, originating in the revolution of 1848, and the subsequent introduction of constitutional government, have brought about a great change, particularly as relates to the *Roboth* system.

Here, as in most other countries, industry flourishes most where it has to contend with the greatest difficulties. The rich level lands of Bohemia, instead of being the best, are the worst cultivated. The occupiers of the mountainous and poorer districts display, speaking generally, not only the greatest industry, but the greatest skill, and the most improved methods of cultivation.

The forests, as already seen, are very extensive; they are mostly situated in the W. parts of the kingdom, and especially in the district of Prachin. They are estimated to yield annually above 2,000,000 cubic fathoms of wood.

Manufactures.—With the exception, perhaps, of Moravia, Bohemia has long been the most celebrated of all the Austrian states for its manufactures. It long produced the finest linens and linen yarn of any country in Europe. Spinning is the universal and favourite employment of the women; and no fewer than 500,000 females are said to prosecute it as a subsidiary business. About 55,000 hands are supposed to be still employed in hand-loom linen weaving; and the total annual value of the produce of this branch of industry, including that of lace, may be estimated at about 1,200,000*l.* a year. This branch of industry is said, however, to be on the decline, in consequence

of the growth of the cotton manufacture. There are about 500 bleaching establishments in full work, and the manufacture of potash is very considerable. The woollen manufacture is very extensive: in spinning, only 55,000 hands are said to be engaged; and in weaving, from 15,000 to 16,000: the weaving of woollen stockings employs from 2,000 to 3,000 hands. The hat-makers, furriers, &c., are estimated at about 1,200, and the leather manufacturers at 4,000. There are about 100 paper-mills; and the imperial tobacco manufactory at Seidlitz supplies the whole country with that article, through the agency of above 7,000 retail shops. The manufacture of metals and minerals, and of beet-root sugar, has already been alluded to.

But of all the Bohemian manufactures none is nearly so well known in foreign countries as that of glass. Bohemian glass is not so pure as that of England or France; but the art of staining, painting, and gilding glass, is much better understood here than in other countries, and articles of Bohemian manufacture are unequalled in point of lightness and richness of appearance. Altogether, from 1-5th to 1-4th part of the inhab. of Bohemia are engaged in manufactures. But nearly all the hand-spinners and weavers combine with their business that of cultivators of patches of land, and other employments.

Owing to the want of capital, many of the great landed proprietors are obliged to engage in manufactures. Thus, Prince Kinsky, and Counts Harrach and Bucquoy, are the greatest glass manufacturers; Prince Auersberg manufactures sulphur, vitriol, and colours; Count Urbna and Prince Windizgratz, tin plates; Count Thun, porcelain; Prince Lobkowitz, earthenware; Prince Wallenstein and others, beet-root sugar, and so forth.

Races of People.—Of the 4,700,000 people in Bohemia, about 3,000,000 are Czeches, of Slavonic origin, and the rest Germans and Jews. The Germans, to the amount of 900,000, principally inhabit the capital and the circles of Elbogen, Saaz, Leitmeritz, Bidachow, and Königgratz. In these circles German is the more prevalent language, though even in them Bohemian is often the vernacular tongue of the lower classes, as it is that of the middle classes, and even of the higher ranks in other parts. The German pop. is more industrious, intelligent, and enterprising than the Slavonic. The Jews have been settled in Bohemia from a very remote epoch. Here, as in other countries, they are mostly engaged in mercantile and pecuniary transactions; and they are also extensively engaged in the business of distilling and brewing.

Religion.—Notwithstanding Bohemia may be truly said to be the cradle of the Reformation, and the determined and long-continued stand her inhabitants made in defence of the doctrines promulgated by Huss and his followers, she is now become one of the principal strongholds of Catholicism. The spirit of the ancient Bohemians has been entirely subdued; and they have become amongst the most bigoted and superstitious adherents of a faith imposed on them by the sword of the conqueror and the rack and gibbet of the inquisitor. The church hierarchy consists of an archbishop (of Prague), 3 bishops, 7 deans of chapters, with numerous canons, 11 archdeacons, 183 deacons, 1,107 parish and 505 minor cures. Though the monastic institutions were much diminished by the vigorous and salutary reforms effected by Joseph II., there are still no fewer than 75 monasteries and 7 convents, comprising about 1,020 monks and 150 nuns; these are, however, obliged to do the duty of parish clergy, or to employ them-

selves in education, or in the care of the hospitals. Joseph II. granted full toleration to all sorts of religions. The Lutherans and Calvinists together amount to from 60,000 to 70,000. The Jews, amounting to nearly 70,000, are under the grand rabbi at Prague.

Education.—Bohemia has a great number of educational establishments. The institutions consist of a university at Prague; a polytechnic school; 26 gymnasiums; 3 philosophical seminaries; 3 theological seminaries; 1 military academy; 3 convents for female education; 1 Jewish college; 40 grammar schools; 2,500 Catholic, 36 Protestant, and 20 Jewish, schools; and there are also schools for music and drawing, an observatory, and numerous libraries and cabinets of natural history, arts, and sciences. The Academy of Prague, though not long established, enjoys considerable celebrity. But notwithstanding this imposing number of educational establishments, the education of the people is, in reality, at a very low ebb. There are detailed official returns on the subject, but the general state of education in Bohemia may be measured by the fact that, at the conscription of 1857, it was found that in the archduchy of Austria, of 2,649 recruits, 2,323 were able to read and write, while in Bohemia there were, among 11,213 recruits, only 6,597, or scarcely one-half, able to read and write.

During the reign of Joseph II. the use of the Bohemian language was forbidden, not only in the courts of justice, but also in the colleges and higher academies. But, instead of suppressing the language of the people, this seems to have occasioned a reaction in its favour; and during the present century Bohemian literature has been a good deal attended to, and made considerable progress.

Poor.—The number of hospitals and charitable institutions in the capital and principal towns is very considerable, and in the towns the poor are carefully provided for. No regular poor-rates are, however, collected; where the foundation funds and voluntary subscriptions do not suffice, the deficiency is made up by government. But the contributions of the latter are afforded very sparingly, and begging is, after all, the great resource of the Bohemian poor, as it must be of the poor of every country where a compulsory provision is not established. It is here, in fact, universal; and all travellers are disgusted with the numbers and importunity of the mendicants.

Manners and Customs.—The Bohemians are passionately fond of music and dancing, and have attained to great proficiency in both. The national airs are nearly the same with those of the Slovaks of the NW. part of Hungary, and are generally plaintive. The waltz is the favourite dance; and two of its most fashionable varieties, the *Redowa* and the *Guloppe*, have been borrowed from the Bohemian peasants. The men are generally robust and well proportioned; and the women are celebrated for their beauty. The dispositions of the people are more mercurial, and their manners more gay, frank, and open, than those of their Saxon neighbours. How much soever the objects of their veneration may be changed, they are still, as in the days of Huss and Jerome of Prague, zealous defenders of what they believe to be right and proper. There is a nearly total want of a middle class—an intermediate rank between the lords and their vassals. With the exception of Prague, there are no great towns, none of those foci whence intelligence and civilisation are diffused over a country. But, however ignorant and prejudiced, the character of the Bohemian peasant is most respectable. In point of morals, he is quite on a level with the peasantry of other nations. Crimes

of violence are of rare occurrence. The proportion of illegitimate to legitimate births is as 1 to 8; but in the capital it is as high as 1 to 2.

Government.—Up to the year 1848, the chief political power in Bohemia was in the hands of the nobility, some 2,260 in number, including 14 princes, 172 counts, 80 barons, and more than 100 hereditary knights as heads of families. The total revenues of the nobility were estimated fifty years ago at 180,000,000 of florins, or 18,000,000*l*.

The year 1848, which gave a constitution to the Austrian empire, destroyed to a great extent the influence of the nobility, by giving to Bohemia, as well as to the other provinces of the monarchy, so-called Provincial Diets. All these Diets are formed in the same manner, only differing in the number of deputies. Each consists of only one assembly, composed; 1st, of the archbishop and bishops of the Roman Catholic and Oriental Greek Church and the chancellors of universities; 2nd, of the representatives of great estates, elected by all landowners paying not less than 100 florins, or 10*l*., taxes; 3rd, of the representatives of towns, elected by those citizens who possess municipal rights; 4th, of the representatives of boards of commerce and trade-unions, chosen by the respective members; and 5th, of the representatives of rural communes, elected by such inhabitants as pay a small amount of direct taxation. The Provincial Diets are competent to make laws concerning local administration, particularly those affecting county taxation, the cultivation of the soil, educational, church, and charitable institutions, and public works executed at the public expense. The executive is directed by the different sections of the ministry at Vienna; the principal of which is the imperial united chancery, under which is the *Gubernium* at Prague. The court of appeals at Prague is under the ministry of justice at Vienna; the receiver of taxes is under the finance minister at Vienna. To these central authorities the various branches in every circle are subject; the courts of justice of the circle being at the same time courts of appeal from the manor courts of the nobles, who exercise judicial authority over their estates. The city and town magistrates have their own civil and criminal courts, from which appeal lies to the court of appeals at Prague. The military have a peculiar jurisdiction. Independent of all authorities, judicial or administrative, the police forms a branch apart, being in the towns confided to especial commissaries, and in the country to the captain of the circle, in whom the three functions, judicial, administrative, and those of police, are united.

History.—After innumerable mutations, Bohemia, with Hungary and Transylvania, fell, in 1526, under the dominion of Ferdinand of Austria, brother of Charles V., who had married the sister and heiress of Louis, king of Bohemia and Hungary, killed at the battle of Mohacz. Bohemia was at this epoch in the enjoyment of a comparatively free constitution, and three fourths of the population were attached to the reformed faith. The attempts of the Austrian sovereigns to undermine the free institutions of the country, and to lay restraints on the exercise of the Protestant worship, provoked a desperate contest, which continued till 1620, when the Austrian troops totally defeated the Bohemians at the battle of Weissenberg, near Prague. The persecution which followed has seldom or never been equalled for atrocity. Many of the best and noblest Bohemian citizens lost their lives on the scaffold, and thousands upon thousands were driven into exile, and had their estates and pro-

perties confiscated. The free constitution of the kingdom was entirely annihilated; the Protestant religion all but extirpated; and such was the combined influence of massacre and exile, that in 1687 the pop. did not exceed 780,000. Subsequently the government gave every encouragement to the settlement of German colonists in the country: and in the reign of Maria Theresa and Joseph II. a new era began; and the milder and more liberal system of government which they introduced has since been followed up.

BOIS-LE-DUC, or HERIOGENBOSCH, a fortified town of Holland, cap. prov. N. Brabant, in a morass, at the confluence of the Dommel and Aa, 27 m. S. by E. Utrecht. Pop. 23,500 in 1861. The town is about 5 m. in circ., is defended by a citadel and two forts, and in case of need the environs may be laid under water. It is a well-built handsome town, and is intersected by several canals, over which there are a great many bridges. It is the seat of a vicar-general and tribunals of original jurisdiction and commerce, and has a fine town-hall, on the model of the Stadt-house at Amsterdam; six churches, of which the cathedral church, or that of St. John, built in the end of the 13th and the beginning of the 14th century, is one of the finest in Holland; a grammar-school, in which Erasmus was partly educated; an academy of painting, sculpture, and architecture; two hospitals, an orphan asylum, and a house of correction. Its manufactures, which are considerable, consist of linen and thread, needles and pins, cutlery, &c., with distilleries, glass-works, &c. It is well situated for, and has, a considerable trade.

Bois-le-Duc was founded, in 1184, by Godfrey III., duke of Brabant. In 1629 it was taken by the Dutch, after a lengthened siege. It was held by the French from 1794 to 1814, when it surrendered to the Prussians, by whom it was again made over to its old masters.

BOJADOR (CAPE), a celebrated promontory of the W. coast of Africa, desert of Sahara; lat. 26° 7' 10" N., long. 14° 29' 5" W. This headland forms the W. extremity of a rocky ridge, called the Geb-el-khal, or Black Mountains. It was long the limit of navigation towards the S., and was first passed by the Portuguese in 1433.

BOJANO (an. *Bovianum*), a town of Southern Italy, in the former kingdom of Naples, prov. Sannio, cap. canton. on the Biferno, in a deep gorge, at the foot of Mount Matese, 16 m. ESE. Isernia. Pop. 5,249 in 1862. This town has suffered severely from earthquakes, the last calamity of this sort having occurred in 1805. It is the seat of a bishopric, and has, or had before the earthquake, a cathedral, with several churches and convents, and an hospital. During the early period of Roman history, Bovianum was a very important place. In the Social war it was one of the strongest holds of the confederates. It was taken by Sylla, and afterwards retaken by the Marsi. Under Cæsar it became a military colony. Strabo says that in his time it was ruinous and deserted.

BOJANOWA, a town of Prussia, prov. and reg. Posen, 9 m. NW. Rawiez. Pop. 2,367 in 1861. It is divided into the Old and New towns; most part of the houses are of wood; it has a large town-house, and fabrics of coarse cloth.

BOKHARA or UZBEKISTAN, a country of Central Asia, comprising considerable portions of the anc. *Sogdiana* or *Transoxiana*, and *Bactria*, forming the most powerful state of what is named by the moderns Independent Tartary, or Turkestan. It lies between the 37th and 43rd degrees of north latitude, and the 80th and 88th

degrees of east longitude, having N. the desert and the khanat of Kokan; E. the mountainous regions of Hissar and Koondooz; S. Caubul; and W. the khanat of Khiva or Kharasm. Area, probably about 235,000 sq. m. Pop. estimated at 2,000,000. Only one-tenth of the territory is inhabited by a stationary population; the remainder consists of steppe or desert, on which the wandering tribes pitch their movable dwellings, and tend their flocks of horses and sheep.

Physical Aspect.—Bokhara is mountainous only in the E., where its mountains are northern spurs from the Hindoo Koosh, and on its S. frontier, where they seem to belong to the Ghoor or Paropamisian range, except a few low-lying hills about Shuhr-Subz, Samarcand, and Bokhara. The height of the former range, in about lat. 39°, is supposed to be at least 18,000 ft. The plain region which comprises all the rest of Bokhara, is nothing but a sandy desert, with a few *oases*, stretching for a few miles on either side the banks of rivers; in which are planted the chief cities and towns; and which constitute the only cultivable lands, and are densely peopled. The rivers are of the highest importance: there are five, viz. the Jihon or Amoo (Oxus), Kohik or Zer-afshan, Kurshee or Karchi, Zourhab, and Balkh. The Oxus intersects the country SE. to NW., dividing it into two unequal portions, and varying in width from 800 to upwards of 800 yards. The course of the Zer-afshan (river of gold) is entirely within this country; it rises in the highlands E. of Samarcand, runs N. this city and Bokhara, and after a course of about 450 m., chiefly E. to W., falls into the lake Dengehiz. The Kurshee rises in the same highlands as the Kohik, runs NE. to SW., by Shuhr-Subz and Kurshee, and is lost in the desert. The Zourhat runs from N. to S., and is similarly lost. The Balkh river rises SW. the Hindoo Koosh, and runs N. to Balkh, where its waters are distributed all over the surrounding country by means of canals. The lake Dengehiz, or 'the sea,' is 60 m. SSW. Bokhara, surrounded on all sides by sand hills; 25 m. long, and very deep: its water is salt, and it appears neither to increase nor decrease at any season of the year.

The fertility of the country is said to have been anciently much greater than at present; the valley of Sogdiana has been spoken of as a paradise by both Greek and Arabian writers; but it is mostly destitute of large trees, and the banks of the Kurshee entirely so. The desert is varied only by sand hills, 15 or 20 ft. high, raised by the wind; of a horse-shoe shape, the bow towards the N., and always resting on a base of hardened clay. Some stunted herbage, low brushwood, and the camel-thorn, are the only signs of vegetation; and a few rats, lizards, beetles, and solitary birds, the only permanent inhabitants. S. of the Oxus, however, it is not quite so bare as elsewhere. Curtius has well described the present state of the region round Balkh, in his glowing description of anc. Bactriana. (See Burnes, ii. 211.) Many remains of former splendour, aqueducts, temples, &c., are to be met with in various spots, as between Khooloom and Mazar; the ruins of Bykund, 20 m. WSW., and of Khojouban, 25 m. NW. Bokhara, &c.

Geology and Mineralogy.—N. of the Oxus, and from the base of the mountains to Bokhara, there is a succession of ranges of limestone, oolite, and gravel, alternating with vast and hardened plains of argillaceous clay of quartzose sand: the pebbles in Miankal are sharp and angular, and look very unlike having ever been subjected to the action of water. There is more gold in the sand of the Oxus than in any other river rising in the Hindoo

Koosh; but other metals are not found in any quantity in this country; silver, iron, and copper, are all imported from Russia. Sal-ammoniac is native near Juzzah, and there is a bed 5 m. in circ. of dark-coloured, imperfectly crystallised salt, near Charjoee, 500 lbs. of which sell for 3s. in Bokhara city. The water in the wells of the desert is often found brackish and unfit to drink, especially S. of the Oxus; between that river and Bokhara the water is good, and exudes through the sand.

Climate.—The climate of the elevated E. frontier is very different from that of the rest of the country. In the plains it is generally dry and salubrious; in the winter sometimes so cold that the Oxus is frozen over, and the snow lies for three months at Bokhara: in the desert in summer the heat exceeds 100° Fahr. The seasons are very regular; at the beginning of March the spring opens, the heat soon increases to an oppressive degree, being seldom refreshed by showers, and for four months the bed of the Kohik is dry at the city of Bokhara, and the country suffers from drought. The summer lasts till October, when a fortnight or three weeks' rain sets in, succeeded by frosts, and these again by rains from the middle to the end of Feb., which are often very heavy, but evaporation is rapid. Violent tornadoes sometimes arise, blowing from the NW.; but a steady wind from the N. blows across the desert in the hot season: the atmosphere is remarkably clear and cloudless at Bokhara, and meteors are frequently seen in considerable numbers at night. At Balkh the summer heat is very oppressive, and the climate unhealthy. Rheumatism is a frequent disease there; and ophthalmia and blindness are the scourges of the desert: fevers are rare, but leprosy is common.

Vegetable Products.—There is but little large timber: willow and poplar are the principal trees in the plains, and the latter is used for house-building: tamarisks and leguminous plants are the most frequent shrubs. A bastard indigo flourishes profusely on the banks of the Oxus, but neither the true plant nor the sugar-cane grow wild. Some *Boraginæ* and *Crucifere* are found universally; lilies, apophodels, and euphorbias less commonly. The *Galenia africana*, the favourite food of the camel, covers many parts of the desert: rhubarb grows in Kurshee; but the gigantic *Ferula persica* (which produces assafoetida) is the sole member of the umbelliferous family. Bokhara is celebrated for its fruits; it is believed to be the native country of the melon, which grows here to more perfection than anywhere else; and most of the fruits familiar to us grow there in great perfection.

Animals.—Wild animals are few: the lion is not now found, though Alexander killed one in Transoxiana. Diminutive tigers on the banks of the Oxus, wild hogs, and asses, deer, antelopes, bears in the E., wolves, foxes, jackals, cats, martens, rats, and marmots, are the chief *Mammalia*; ostriches in the S., eagles, hawks, owls, crows, storks, pigeons, plovers, and water-fowl, are common; but there are no singing birds; and all kinds of game are scarce. Tortoises and lizards are found in the desert; but there are neither alligators, nor many snakes. The fish in the Lake Karakool are good: those of the Oxus are the same as in other Asiatic rivers; a large dog-fish is caught there often of 600 lbs. weight. There are few insects; locusts sometimes infest the neighbourhood of Balkh; the scorpion is common, but not dangerous; a kind of cochineal insect lives on the bastard-indigo, but the dye it produces is very inferior, and the proper mode of

treating it is unknown. The silkworm is abundant on the banks of the Oxus, where the mulberry is planted for it in great quantity; and the Turkmans in the summer months are nearly all occupied in the production of silk. The quality of the water, or some other cause in Bokhara city, produces the *rishts* or Guinea worm, and $\frac{1}{4}$ part of the population are said to be attacked annually with a painful disease, owing to the formation or growth of these worms beneath the skin. When observed, they are extracted by means of needles; an operation in which the Bokharese are very expert.

Races of Men.—Baron Meyendorff estimates the pop. and the different races of which it is made up, at above 2,000,000, reckoning the Uzbeks at 1,500,000, the Tadjiks at 500,000, and enumerating a dozen smaller tribes, of a few thousand souls each. Burnes, on the other hand, estimates the total pop. at no more than a million, half of whom he thinks are wandering tribes. The Uzbeks, the last race who conquered this country, say they originally came from the neighbourhood of Astrakhan, and are divided into a number of tribes, of which that of Mangout is the principal, and the khan always belongs to it. In their physical appearance they resemble a mixture of Tartar and Kalmuck, but those of the capital are scarcely to be recognised as belonging to either of these families, from their great intermixture with Persian blood. The Uzbeks are chiefly established in the principal towns, and in the valley of the Zer-afshan: they are all warriors, and the government offices are for the most part filled by them. Many are employed in trade; they are avaricious, and much addicted to deceit. They are naturally proud, and have a great contempt for the other races, especially the Tadjiks; but are also said to be often well-disposed, and are simple, and easily subject to imposition.

The Tadjiks are regarded as the aborigines, and descendants of the ancient Sogdians. They are similar to European races in both features and complexion, the latter being much less brown than that of the Persians; their hair is black; they are active, laborious, and intelligent, but pusillanimous, and never take arms: they therefore differ in numerous particulars from the Uzbeks. They do not lead a wandering life, but are cultivators, artisans, and merchants; in the latter capacity, like the Uzbeks, they are greedy and avaricious. Most of them know how to read and write; and, excepting the clergy, they are the most civilised people of the country. Their physiognomy expresses mildness and tranquillity; but they are deceitful, and unfeeling towards their slaves.

There are about 20,000 Kalmucks in the country, a large portion of them descendants of the hordes of Jenghiz-khan; the remainder are Torogut Kalmucks, who in 1770 abandoned the banks of the Wolga, to return to their original seat. The former are to be recognised only by their physical appearance; they have almost forgotten their original tongue, and have adopted the customs of the Uzbeks, amongst whom they live, in villages of their own.

Another tribe, the Turkmans, or Toorkmans, inhabit chiefly the region S. of the Oxus (which forms part of Turkestan, or Toorkmania); they belong to the great Tartar family, and differ from the Uzbeks in being exclusively a wandering tribe, having the face larger, and the figure more squat; in these particulars resembling the Kalmucks. They cultivate rice on the banks of the Amoo, but have many herds, and live much on their milk and flesh. Their horses are excellent, and have

been celebrated since the time of Alexander. The Turkmans are by profession dealers in slaves; they have chiefs of their own, named begs, but all pay tribute to the khan of Bokhara.

The Arabs, numbering probably about 50,000, have been established here ever since the age of the caliphs. They are immediately recognised, by their swarthy complexion. Some are wandering, and others demi-nomadic tribes; a third section live in villages, some of which are near Bokhara; others are cultivators, and possess flocks in the steppes: it is chiefly the latter who furnish the lamb-skins, in such general demand. The Persians are mostly slaves, who have been captured by the Turkmans; and a proportion of eight individuals in every village of twenty houses is perhaps a fair average throughout the country. (Burnes.) The Kirghiz are a small wandering horde, found especially N. the valley of the Zer-afshan. Some of the Afghans and Kirghiz are descendants of the hostages retained by Timour: there are some Chinese who have a similar origin. The Bohemians, or Zingeunes, here called Mazand, are of unknown extraction, and live in different companies in every part of the country; they tell fortunes, and have all the other occupations of gipsies. The Jews live almost entirely in Bokhara city; where there are also 300 Hindoos, who are not allowed to build temples, have idols, walk in processions, bring their families beyond the Oxus, or purchase female slaves, and are prescribed a particular dress. They come chiefly from Sindh; are very sober and orderly, industrious and devoted to trade, in which they often amass considerable wealth.

Agriculture.—This is the principal source of the national wealth; rice, wheat, barley, jowaree, sesamum, maize, moong, melons, and beans, are the chief objects of culture. S. of the Oxus the wheat fields, when sown, yield crops for three successive years. When the first harvest is finished, the cattle are turned in upon the stubble fields; and next season the stalks grow up and ear; and a third but scanty crop is reaped in the same way. At Karakool, in Bokhara Proper, the return is said to be sevenfold; at Balkh the wheat ripens in a month; the crops are very good, and the stalk as high as in England. Wheat is usually sown in autumn, and reaped in July; and the fields are afterwards ploughed for peas, which are gathered in the same year. Barley is sown early in March, and reaped before wheat: it comes in the place of oats, which are not used in Bokhara. Jowaree (*Holcus saccharatus*), which, with wheat and melons, occupies most of the surface, comes to maturity in nearly the same period as barley: it grows to five feet in height, and affords both grain for the poor, and, by its leaves, good forage for the cattle. It is commonly surrounded by *tanabs* of hemp and cotton, from the seeds of which oil is extracted. A considerable quantity of cotton is grown and exported, both raw and manufactured, the greater part of it being sent to Russia. Trefoil is cut seven or eight times a year; madder is grown, and tobacco; the best of which is from Kurshee. Beet-root, turnips, carrots, abound. Kurshee is a 'sheet' of gardens and orchards, but most of the stone fruit is inferior to that of Persia. There are many kinds of grapes, and the raisins prepared from those of Bokhara are unrivalled for size and flavour, and beautifully transparent. The mulberry is largely grown for rearing silkworms, and much attention is bestowed upon them. The vines are not pruned, as in Europe. The wines have little flavour, and will not keep long. The most celebrated fruit is the melon, which is of several kinds; one is oval, with a green or yellow skin,

sometimes 4 ft. in circumference, and of a most delicious flavour. Winter melons are said to surpass all the others. Cucumbers also attain great size and excellence. The iris, rose, aster, and sunflower, are cultivated a great deal in the gardens, which are very large and numerous. The fields are parted into *tamabs*, each of which comprises a surface of 8,600 square yards; their limits are formed by ditches for irrigation. The want of water is the great hindrance to the progress of agriculture, as, wherever there are neither rivers nor canals, the ground is uncultivated. Property in-land is of five kinds: 1st, The state property, which is the most considerable. 2ndly, The *kharadj*, the right to which was formerly doubtful between the government and certain proprietors, and has been ceded to the latter, on payment of a light tax. 3rdly, Fiefs, bestowed for military services. 4thly, Properties of individuals. And, 5thly, Legacies for religious purposes. The state territory, as well as other property, is let; government receiving as rent two-fifths of its produce.

Cattle.—Bokhara is rich in cattle; the sheep and goats claim the first notice, since the one yields the celebrated skins and the other a wool, only inferior for shawls to that of Cashmere. These flocks graze on furze and dry grass, and their flesh is sweet and well-flavoured. All the sheep are of the variety with large tails, some of which yield as much as 15 lbs. tallow. The description of sheep which produces the jet black curly fleece, made into caps in Persia, and so much esteemed everywhere, is peculiar to Karakool, a small canton between Bokhara and the Oxus. The animal will thrive nowhere else, and has been transported to Persia and other countries without success: when removed it loses the peculiarity in its fleece, and becomes like other sheep. The annual export of skins amounts to about 200,000, the best of which are sent to Constantinople. The goats yield the shawl wool, and are about the common size, of a dark colour; and many belong to the wandering Kirghiz tribes. The oxen are neither large nor strong, and beef is eaten only by the poor: mutton is the food for which there is the greatest market. The horses of Toorkmania are large and bony, and more remarkable for strength and bottom than symmetry or beauty. The Uzbek tribe, of Karabeer, possess the most matchless horses in the East: the breed was introduced by Tamerlane, or Timour, into the country round Samarcand and Shuhr-Subz. All the traffic of Bokhara, however, is carried on by means of camels: these have a sleek coat, as fine as that of a horse, and shed their hair in summer, from which a fine waterproof cloth, of close and heavy texture, is manufactured. The Bactrian camel, with two humps, and tufts of black hair on the neck and thighs, abounds S. of the Oxus, and can carry a burden of 6 cwt.; the dromedary is common in Bokhara; the asses are large, sturdy, and much used: there are no mules.

No considerable manufacture is found in Bokhara; none employing more than four or five workmen at a time. Cotton thread, silk stuffs of different colours, leather, excellent shagreen, good sabres, knives, and other steel articles, locks, hardware, gold and silver mountings for knives and sabres, rings and other jewellery, articles of turnery, and fire-arms, are amongst the chief productions. Women are often employed in embroidery, and especially in divesting the cotton of its seeds, which occupies many hands. No farther use is made of hemp than to procure an intoxicating drug; sugar and confectionery are made from the manna found on the camel-thorn. The Jews and others excel in the art of dyeing, but leather is

generally bad, and the cutlery inferior to that of Persia. The canals are large; and all the villages are situated on the banks either of a river or canal, and consist generally of about a hundred houses built of earth, sometimes walled round, and intersected by public ways not so narrow as those of the towns: in their centre is commonly a public fountain, or small reservoir. There are very few towns; they are all built on rivers, and surrounded by cultivated fields: Bokhara, Samarcand, Kurshée, Karakool, and Balkh are the principal; the rest are but large villages.

Commerce.—Bokhara, though politically of secondary importance, holds a pretty high position in the commercial world. Fruitful in the productions of the earth, where all around is desolation, it is a central mart, where the commodities of Europe, China, Persia, India, and Caubul, may be exchanged with advantage. Peter the Great of Russia wished to open a communication between the Caspian and the banks of the Oxus: he succeeded in opening roads from the S. of Asiatic Russia to the E. of the Aral Sea; and for more than a century they have been annually travelled by the caravans of Bokhara, which bring back the manufactures of Russia. The first caravan leaves the city of Bokhara about the vernal equinox. The river Sir is crossed when frozen. This caravan reaches Troitska (lat. 54° N., long. 61° 20' E.) in about 65 days. The second starts a month later, but does not reach the Sir till May, the merchants joining it in the interim. Its destination is Orenburg. The third and largest leaves about the middle of May, and reaches the Russian frontier at Novo Iletsk in 45 or 50 days. Its course is by the N.E. extremity of the Sea of Aral, and over the Mugajar mountains to the sources of the Ilek.

The caravans from Russia set off from the middle of September to the middle of November. That from Troitska, with ironware bought in the government of Orenburg, is the earliest. Merchants who have attended the fair at Nijni-Novgorod send their goods by the great caravans which leave Orenburg and Orsk in the first half of November. The want of fuel obliges them to scatter in the Russian steppes, but elsewhere the saksaul grows abundantly. The Kirghiz are the principal carriers. There is a caravan route from Bokhara to Petropavlofsk, or Kiziljar (lat. 54° 30' N., long. 69° E.) on the Issim, by Tashkand. This is a journey of 90 days. Russian iron is brought by this route, and is sent to Hissar, Badakhshan, Khulm, and Maimanna. Two caravans arrive yearly from Khokand with Chinese goods, and three from Mashhad. (Mr. Davies's Report on the Trade of Central Asia, published by order of the H. of C., of Feb. 11, 1864.)

The exports from Russia comprise silk, cotton, wool, coarse chintzes, cotton-thread (which is in much request), lamb-skins, and others. The returns are paid in Dutch crowns and ducats, Spanish piastres, and Russian silver roubles. The total exports to Russia are valued at 320,000*l*. Silk and cotton are sent in large quantities to Caubul, and even into India; and wool as well, which fetches from 6½ to 8 tillas (4*l*. to 5*l*. 7*s*. per 256 lbs. Eng. The lamb-skins of Karakool are paid for in ready money by foreign merchants.

The imports from India are the same as those into Caubul; a half of the 2,000 camel-loads that reach the latter country yearly from India pass on into Turkestan. Muslins, Benares brocade (about 500 pieces), white cloth from the Punjab for turbans, sugar, and shawls, which pass through to Russia, are the chief imports. Till within the last 50 years the trade in European fabrics was with Russia only, through Orenburg and Troitska; but it is

now carried on more extensively through India and Caubul. The imports from Russia are white cloth, muslins, chintzes, and broadcloth, both of Russian and English manufacture, and the chintzes, often Polish or German, imitation brocade, velvet, nankeen, gold thread, hardware, metals, cutlery, jewellery, leather, paper, Kirmiz dye, refined sugar, &c. Not less than three-fourths of the articles from Russia and India are of British manufacture. British chintzes, which realise sometimes 50 per cent., and broadcloth are, like most other British manufactures, valued by the females of both Caubul and Bokhara greatly above those of Russia.

The routes to Caubul and Bokhara from Peshawur are by the Khybur, Tatra, and Abkhanā Passes, which unite at Dakka in the Jalalabad district. The distance is about 116 kos (equal to 193 miles) to Caubul; and in all 492 kos (equal to 829 miles) to Bokhara by the Bamian route, being 40 days' journey. The route by the Koushan Pass is three days shorter, but more difficult. From Bokhara to Khokand is 15 days' journey, thence to Kaahgar 18, and on to Yarkand 5. The Khybur Pass is generally avoided by caravans. The Afridis even when subsidized will not refrain from plunder, and the Amir of Caubul has therefore recently discontinued the allowances hitherto paid to them; otherwise the Khybur is by far the easiest route. The others are protected by the Momund chief of Lalpoora, who holds his lands on this condition; at the passes tolls are levied on horsemen and foot passengers. The road from Peshawur to Caubul is fit for camels throughout, and possesses the great advantage of being practicable throughout the year; but kafilas seldom travel in the months of January and February. Between Caubul and Khulm the highest passes are Hajigak (11,700 ft.), Kalu, and Dundan Shikan; in traversing these, provisions must be carried. This portion of the Hindu Khush is entirely destitute of trees; camels and ponies are used in the summer; but the former, according to Khanikoff, have only come into use during the last 40 years. On this route caravans enjoy a fair degree of security. (Mr. Davies's Report on the Trade of Central Asia, 1864.) The transport through Caubul costs little; and if Russia navigate the Wolga, Britain commands the two great thoroughfares of the Ganges and the Indus. By the trade with the Chinese territ. of Cashgar and Tarkund, Bokhara derives coarse porcelain, musk, bullion, tea, silks raw and manufactured, rubarb, and Tibet wool. The Persian trade is inconsiderable; Kirman shawls, sugar, and opium, are the chief imports: the latter is re-exported to China. From Kokan are received white cottons, silks, more durable than those of Bokhara, and a raw silk of inferior quality. The commerce with Russia is said to employ 8,000 camels; that with all other countries as many more: but it is said that none of the merchants are possessed of 40,000*l.*, from their frequent and severe losses by the pillage of the wandering tribes.

Money.—Weights.—The coins in use are the *tilla* (gold), worth 18*s.* 4*d.*; the *tonga* (silver)=7*6d.*; and the *poul* (copper)=27*6d.* Weights: the *batman*=131·104 kilog. (291 lbs.); *seer* (35½ lbs.) The duties on European goods are very moderate, being only 2½ per cent.; a Christian must, however, pay 20, and a Hindoo 10 per cent. These injunctions are derived from the Koran; but as the Koran inculcates strict protection to the merchant, and as the people are strict observers of its precepts, in no Mohammedan country is there so much safety and freedom from exaction for the trader.

The Public Revenue is professedly spent in the support of mosques and moollahs, but the present khan is supposed to use a considerable portion to maintain his armed force. These revenues are derived chiefly from land, which in Turkestan is valued according to the water which fertilises it: the total amount is estimated by Meyendorff at about 400,000*l.* (by Burnes, at 369,850*l.*); but half the land is enjoyed by the church. Other taxes are those on merchandise, which in the late khan's reign were not levied until the goods were sold; taxes on the farmers' produce, on gardens, orchards, and melon beds; on dried fruits, manna, and skins; customs on goods entering the capital; a capitation-tax on all the inhabitants of the country not Mohammedans, and in time of war a tax on each householder. The land revenues are received by the *hakims*, or governors of districts, who pay the *employes* and troops cantoned in their prov. before forwarding the collections to the royal treasury: the administration of the finances is entirely in the hands of the khan himself and his vizier.

The Government is a combined monarchy and hierarchy: the khan is despotic; but does nothing without the advice and authority of the moollahs, or priests. This arises from no inability on his part to assert his power; but from the constitution of the monarchy, which is exclusively based on the laws of the Koran, here more strictly enforced, perhaps, than in any other Mohammedan country. The order of succession to the throne formerly required only that the khan should be of the family of Jenghiz, whether by the male or female line; but that family is not now on the throne. He takes the title of *ameer ool moomuneen*, or 'commander of the faithful,' and looks upon himself as one of the heads of the Mohammedan religion, paying, however, a respect to the sultan of Constantinople, of whom he calls himself 'the bow-bearer.' The *koosh beggee*, or vizier, has great influence, and his high office has latterly become hereditary in his family: all the local governments are filled by his dependants or nominees. Every town or village is ruled by moollahs, the descendants of the first caliphs, and, excepting the khan, the vizier, and priesthood, there is no other body having any weight in the country: there are no subordinate khans, nobles, or rajahs, as in India; nothing, in short, bearing any semblance of a feudal aristocracy. The court displays no magnificence: the same system of government has existed in Bokhara from the earliest ages of Mohammedanism. The tomanas, or districts, are governed by *hakims*, who are in direct communication with the khan; each is assisted by three functionaries, viz. a superintendent of police, a receiver of imposts, and a secretary. All the chief towns have a *cadi*, or judge; the smaller ones only a commissary of police: the *cadi* is assisted by a mufti, and in the capital by two: the police is strict and efficient, and the roads in the interior are free from robbers.

Justice is summary and severe; guided wholly by the Koran, and often capricious and contradictory; but nowhere in Asia is there so much protection afforded to all classes. The most trivial offences are punished with death; fines, imprisonment in dungeons, and blows, are also employed.

The Armed Force consists of about 20,000 horse and 4,000 foot, levied from the different provs., but without discipline; independent of a militia of 50,000 horse, 10,000 of which are from Balikh and the countries S. the Oxus; and which are seldom called on to serve, and when embodied receive no pay. The regulars are paid in grain, each soldier receiving 8 maunds of 256 lbs. yearly; their chiefs have assignments of land. The regular force consists wholly of Uzbeks, who, though not good

soldiers, are superior, as irregular cavalry. They are armed with curved sabres, long knives, and heavy spears 20 ft. in length, with a short blade: some wear a short coat of mail, a helmet of iron, or a round shield of buffalo hide; the infantry carry matchlocks, but use them very indifferently. There are no native artillerymen; the artillery consists of 41 field pieces, which lie neglected in the citadel at Bokhara. Few troops are drawn from the S. of the Oxus; the Arabs are good soldiers, but the Turkmenans cannot be coerced.

Religion.—The people are all Soonite Mahomedans; their religion has great influence over all their usages; and the intolerance of their sect causes incessant hatred towards their Shiite neighbours, the Persians. Intolerance and bigotry are amongst the most prevalent national vices, and no religion other than the national one may be publicly professed; though the Jews find means to avoid the injunction. Daily public prayer is enjoined, and in the capital nothing is allowed to be sold during the hour so employed; and the police officers expel with whips persons then exposing their merchandise in the markets. There are colleges at Bokhara, but theology alone is studied, and proselytism is greatly encouraged by the government. Astrology is honoured highly, for superstition is very prevalent; magic is firmly believed in, and its origin referred to India.

Education and Social Life.—Bokhara itself for a long period was considered a learned as well as a holy place; Timour and Baber encouraged literature; which has, however, greatly declined since the Uzbek conquest. Notwithstanding a great number of colleges in the capital, and schools in the country, most of the pop. know neither how to read or write. The children of the Tadjiks acquire these branches, and some knowledge of figures, to serve them as merchants, since they are very rarely members of the chief clergy: the sons of the most opulent persons generally learn only to read, write, and get the Koran by heart. Still a respect for knowledge and its professors is generally prevalent: to found schools is an act of piety, as well as to feed poor scholars; and these often come uninvited and unknown to the *ménages* of the rich, and receive money. Geography, astronomy, history, and medicine are nevertheless in a very low state.

The diet of the people is very simple: after morning prayers, they take tea, mixed with milk, salt, and oily substances, of which mixture they are very fond. At four or five o'clock they dine on rice, carrots, turnips, &c., with mutton, or other meat. The Uzbeks sometimes eat horseflesh, but it is expensive; cheese, milk, and fat are much used; a sheep is killed, and the entire tail, however large or fat, is melted up with the meat, and cooked in a single boiler. Immediately after dinner they take tea, prepared as in Europe; coffee is not used. They eat with their fingers, knives and forks being unknown. Drunkenness, if public, would be perhaps punished even with death.

The dress of the men consists in one or two long robes of cotton cloth; the under longer than the upper; and a white cotton turban; or, amongst the Uzbeks, a cap of red cloth, bordered with martens' skins: here, as well as at Constantinople, the form of the head-covering indicates the distinctions of rank. All wear large white trousers, and close short drawers: the rich public functionaries are often habited in Cashmere shawls, and cloth of gold. The dress of the women differs little from that of the men; they wear the same pelisses, but the sleeves are tucked together, and tied behind; richly decorated boots; and have always a black veil over the face: the Turkman

women are, however, not veiled. Both sexes often stain the nails red with henna, and the Persians use this herb to dye their beards; the women braid their hair, and blacken their eyelids and eyebrows with plumbago. The languages in use are the Persian and Turkman; the latter is spoken by the Uzbeks and wandering tribes S. of the Oxus, and is remarkable for its rudeness. The articles of luxury in use are very few; their dress and horses constitute nearly all the personal property of the people; their houses are ill built, almost destitute of furniture; they have neither plate, glass, nor clocks, and very seldom a watch. The rich have many slaves, who are brought from Orghuné, and are mostly Persians, seldom Russians or Chinese.

History.—Alexander penetrated into both Bactriana and Transoxiana, which were after his death ruled by his successors. The Arabs conquered this country at the end of the 7th, or in the early part of the 8th, and Jenghiz Khan devastated it in the 13th century: it was the native country of the next great eastern conqueror, Timour, whose successors were dispossessed, by the Uzbeks, in the beginning of the 16th century. Nadir Shah, early in the 18th century, took Bokhara; but the government soon after fell again into the hands of the Uzbeks and of the descendants of Jenghiz: that family has, however, ceased to reign since 1800. The late khan devoted himself wholly to religion, and died in 1825, leaving a kingdom that had suffered insults and encroachments on every side, from his own want of attention to temporal concerns. The present sovereign, his son, is on amicable terms with the neighbouring states of Khiva and Caudul, and the empires of China and Turkey: with the Persians the Uzbeks hold no communication; and in Kokan the influence of Russia predominates. (Burnes's Travels in Bokhara in 1832-1834, 3 vols. 8vo., 1835; Meyendorff, Voyage d'Orenbourg à Bokhara, Paris 1826; Khanikoff, Reisen in Bokhara, 1868; Vambéry, Travels in Central Asia, Lond. 1865; Davies's Report on the Trade of Central Asia; and official papers.)

BOKHARA (*the treasury of sciences*), a celebrated city of Central Asia; cap. of the above *khanat*, and seat of the khan; on the left bank, and within 6 or 7 m. of the Zer-afshan, at the W. end of its valley; 115 m. WSW. Samarcand, and 250 m. NW. Balkh; lat. 39° 48' N., long. 64° 26' E. Pop. estimated at from 100,000 to 150,000. The town is 8 m. in circ.; of a triangular shape, and surrounded by a wall of earth about 20 ft. high, flanked by round towers and bastions, and pierced by twelve gates, with brick masonry. Bokhara is surrounded by a flat but rich country, and is quite embosomed in trees, giving it a beautiful appearance at a distance, which however vanishes on entering it. The streets are so narrow that a laden camel fills up even the largest, and in the smaller ones two persons have difficulty in passing each other: they are also extremely dirty, and always crowded with camels, horses, and asses. The houses are mostly small, and of one story; the common ones built of sun-dried bricks, on a frame-work of wood; others of a superior kind are painted and stuccoed, with Saracenic or pointed arches set off with lapis lazuli and gilding; the roofs of all are flat; and they have but a bare wall without windows facing the public ways: except in one building, there is no glass whatever. About 100 ponds and fountains, constructed of squared stone, furnish the population with water: the city is also intersected by canals shaded by mulberry-trees, which bring water from the Zer-afshan; the main canal from which is opened every

fifteen days. There is scarcely a garden or burying-ground within the walls; 'the traveller winds his way among lofty and arched bazars of brick, and sees each trade in its separate quarter of the city: here the chintz-sellers, there the shoemakers; one arcade filled with silks, another with cloth. Everywhere he meets with ponderous and massy buildings, colleges, mosques, and lofty minarets. The principal structure is the *Aerk*, or khan's palace, nearly in the centre of the city, built on a natural elevation between 250 and 800 ft. high, surrounded by a brick wall 70 ft. high, with a lofty entrance of brick decorated by a minaret on either side. This fortress contains the residence of the sovereign, his harem, and a mosque, all encircled by a garden, together with the residence of the vizier, and his public courts of audience; stables, barracks, &c.: the gates, both of the palace and of the outer city, are shut at twilight, and a double guard mounted. There are 360 mosques, and 366 schools and colleges in Bokhara, superintended by about 800 moolahs, who undertake the charge of both religion and education; Bokhara always enjoyed the titles of holy and learned. The mosques and colleges are generally situated opposite each other, and have a striking resemblance in their architecture: that of the former is the most varied; the principal mosque covers a space 800 ft. square, and has a cupola rising to one-third that height, and covered with blue enamelled tiles: most of these buildings are of brick, and the courts of some paved with stone. The handsomest structure in Bokhara is a college of King Abdoolah, built in 1650, which has a lofty arched entrance, some beautiful enamel, and a white marble pavement: the largest college here was built at an expense of 40,000 roubles in specie, defrayed by Catherine II. of Russia. Attached to the great mosque is a brick tower, or minaret, 210 ft. high, built by Timour, in good proportions; the materials disposed in ingenious patterns, and the whole in good preservation. Criminals are thrown from this tower; but, excepting on these occasions, no one ascends it but the high-priest, to call the people to prayers; and he only on Fridays, since it overlooks most of the private gardens in the city, and the most scrupulous endeavours are made to seclude the women in Bokhara from the gaze of every stranger. W. of the palace is a small square, the Segistan, surrounded with massive buildings, colleges, shops, and stalls; a third part of the city consists of shops and hotels; and the jewellery and cutlery of Europe, the tea of China, the sugar of India, the spices of Manilla, the shawls of Cashmere, and every other article of use or ornament, may be purchased. Many of the merchants remain night and day in their shops, having no other habitation; the bazars are generally open every day, excepting those for slaves, gems, and other such luxuries, which are open but twice a week. There are 4,000 Jews in Bokhara, which is proportionally more than in any other eastern city, and they contend they are better treated here than elsewhere, though they are confined to a residence in three particular streets, are subject to high imposts, and not permitted to build a new synagogue. Sir A. Burnes gives a graphic description of the daily scene in Bokhara (Travels, ii. 237-239):—'From morn to night the crowd which assembles raises the humming noise, and one is stunned at the moving mass of human beings. In the middle of the area, the fruits of the season are sold under the shade of a square piece of mat, supported by a single pole. One wonders at the never ending employment of the fruiterers, in dealing out their grapes, melons, apricots, apples, peaches, pears,

and plums, to a continued succession of purchasers. It is with difficulty that a passage can be forced through the streets, and it is only done at the momentary risk of being ridden over by some one on a horse or donkey. The latter animals are exceedingly fine, and amble along at a quick pace with their riders and burthen. Carts of a light construction are also driving up and down, since the streets are not too narrow to admit of wheeled carriages. In every part of the bazar there are people making tea, which is done in large European urns, instead of teapots, and kept hot by a metal tube. The love of the Bokharee for tea is, I believe, without parallel; for they drink it at all times and places, and in half a dozen ways: with and without sugar; with and without milk; with grease; with salt, &c. The day is ushered in with guzzling and tea-drinking, and hundreds of boys and donkeys, laden with milk, hasten to the busy throng. The milk is sold in small bowls, over which the cream floats: a lad will bring twenty or thirty of these to market in shelves supported and suspended by a stick over his shoulder. Whatever number may be brought, speedily disappear among the tea-drinking population of this great city. Next to the venders of this hot beverage, one may purchase "*rahut i jan*," or "the delight of life," grape jelly, or syrup mixed up with chopped ice. This abundance of ice is one of the greatest luxuries in Bokhara, and it may be had till the cold weather makes it unnecessary.' Another and more recent traveller, Armenius Vambéry, a Hungarian, who visited the city of Bokhara in 1868, describes a scene, to which he was led by a native, as follows:—'He conducted me through the Timche Tchay Furushi (Tea Bazar) to the renowned place Lebi Haul Divanbeghi (bank of the reservoir of the Divanbeghi). For Bokhara I found this a most attractive spot. It is almost a perfect square, having in the centre a deep reservoir, 100 ft. long and 80 broad; the sides are of square stones, with eight steps leading to the surface of the water. About the margin stand a few fine elm trees, and in their shade the inevitable tea booth, and the Samovars (tea-kettle) looking like a colossal cask of beer. It is manufactured in Russia expressly for Bokhara, and invites every one to a cup of green tea. On the other three sides, bread, fruit, confectionery, and meats warm and cold are exposed for sale on stands shaded by cane mats. The hundreds of shops improvised for the occasion, around which crowds of longing mouths or hungry customers hum like bees, present us with a very characteristic spectacle. On the fourth side, that to the west, which is in the form of a terrace, we find the mosque Meedjidi Divanbeghi. At its front there are also a few trees, where Dervishes and Meddah (public reciters) recount in verse and prose, and actors represent simultaneously, the heroic actions of famous warriors and prophets, to which performances there are never wanting crowds of curious listeners and spectators.' (Vambéry, Travels in Central Asia, Lond. 1865.) At Bokhara, the learned, or would-be-learned, are seen poring over the tattered pages of Toorkie or Persian lore, at book-stalls, and at the doors of the colleges the students are often seen lounging after the labours of the day; 'not, however, so gay, or so young, as the tyros of a European university, but many of them grave and demure old men, with more hypocrisy, but by no means less vice, than the youths in other quarters of the world.' Each of these resident students has a fixed allowance, as well as the professors; the colleges are well endowed, and possess many of the surrounding lands, which have been purchased by pious

individuals for that purpose, as well as the whole of the bazars and baths. The baths, of which there are eighteen, can accommodate 270,000 people yearly, and bring an annual revenue of 1,800*l.*: some are very large. The colleges are shut for six months in the year, when the students work in the fields for a subsistence; their course of study generally lasts seven or eight years: they come from all the neighbouring countries except Persia. 'With the twilight, the busy scene in Bokhara closes, the king's drum beats, it is echoed by others in every part of the city, and at a certain hour no one is permitted to move out without a lantern. From these arrangements, the police of the city is excellent; and large bales of cloth are left on the stalls at night with perfect safety. All is silence until morning.'

The origin of Bokhara is uncertain, but it is believed to have been at first but a collection of fishermen's huts, its site having abounded with small lakes. It is supposed to be at no great distance from the ancient *Trybactra*, but which Ptolemy places on the opposite side the Zer-afshan, or river of Sogdiana. In A.D. 705 it was taken by the Arabs, and between 896 and 998 was very flourishing, and the seat of the Samanide dynasty. Jenghiz Khan burnt it in 1219, and it was not rebuilt till near the end of his life: it was threatened, but saved, by his grandson. Under Timour it flourished anew; but since the rule of the Uzbeks has rather declined, though it be still the most renowned city in Central Asia. (Burnes's Travels, ii. 229-261; Meyendorff, Voy. pp. 164-188; Vambéry, Travels in Central Asia, 1865.)

BOLBEC, a town of France, dép. Seine Inférieure, cap. cant., at the foot and on the declivity of a hill washed by the Bolbec, 18 m. ENE. Havre, near the railway from Rouen to Havre. Pop. 9,574 in 1861. This is a handsome thriving town. Having been almost entirely burnt down in 1765, it was rebuilt on a regular plan. Houses partly of brick, and partly of hewn stone; streets wide and well laid out, the principal being ornamented with two fountains surmounted by statues in marble. In the environs are a number of country houses. It has a chamber of commerce, and a council of prud'-hommes; and was early, and is now, very extensively engaged in the spinning and manufacture of cotton. 'Bolbec,' says M. Dupin, 'is advantageously situated for commerce, bringing raw cotton from Havre, and coal from Fecamp and Harfleur, while she sends her products to Rouen—the great mart for all sorts of cotton goods. The manufacturers of Bolbec unite a spirit of order and economy to activity and enterprise: their establishments are on a level with the progress of industry. The workmen are not all concentrated in the town; many of them live in the adjoining country; they are in comfortable circumstances and happy.' There are in the district of which Bolbec is the capital, above 20,000 work-people employed in the spinning and weaving of cotton, producing goods of the annual value of above 25,000,000 fr., or 1,000,000*l.* sterling. Exclusive of cotton, it also produces various descriptions of woollen and linen goods, and has tanneries and dye-works. There is here no local tax or octroi on the goods imported into the town.

BOLGARY, or **OUSPENSKOI**, a village of Russia in Europe, gov. Kasan, on the right bank of the Volga, 16 m. SW. Spask. Pop. 900 in 1858. In the vicinity are the ruins of the ancient city of Boulghar, the capital of the Bulgarians. It was visited by Peter the Great in his expedition against the Persians in 1722, and has since been visited and described by Erdmann and others.

BOLI, a city of Asiatic Turkey, in Nátolia, cap. sanjak, 85 m. NW. Angora; lat. 40° 35' N., long. 31° 19' E. Estimated pop. 10,000. It is situated on an eminence, at the W. extremity of a rich and fertile plain, on or near the site of the ancient city known to the Romans by the name of *Hadrianopolis*. The ruins of a castle stand on the summit of a small hill. It is a poor place, consisting of about 1,000 houses, principally inhabited by Turks, with a few Armenians, but no Greeks. It has twelve mosques, a square or market-place, a public bath: is the residence of a pacha of two talls, and, as it lies on the direct road from Erzeroum to Constantinople, is a considerable thoroughfare for caravans. There are mineral baths within about 4 m. of the town, to which the Turks resort in great numbers.

BOLIVIA, a republican state of S. America, comprised between lat. 8° 30' and 25° 40' S., and long. 58° and 71° W.; having N. and NW. the states of N. and S. Peru, E. Brazil and Paraguay, S. La Plata and Chili, and W. the Pacific Ocean. Extreme length, N. to S., above 1,100 m.; ditto breadth, above 750 m.; area, 478,298 Eng. sq. m. Pop. 1,987,352 in 1858. Included in the population returns are 245,000 Indians. The republic is divided into nine provinces, as shown in the subjoined table:—

Provinces	Inhabitants
La Paz . . .	475,522
Cochabamba . . .	349,892
Potosí . . .	281,229
Chuquisaca . . .	223,668
Oruro . . .	110,931
Santa Cruz . . .	153,164
Tarija . . .	88,900
Yeni . . .	53,973
Atacama . . .	5,273
Aborigines . . .	245,000
Total . . .	1,987,352

The capital of the republic is Chuquisaca, in the prov. of the same name, with 19,760 inhabitants. But there are three larger towns, namely, La Paz, with 76,372, Cochabamba, with 40,674, and Potosí, with 22,850 inhabitants, all according to the census of 1858. There is only one port of any importance, Cobija, on the South Pacific, with a population of 2,880.

Surface.—Mountains.—The country presents, in its various divisions, very different conditions of surface, elevation, and climate. On the W. it is traversed by lofty mountains, while on the E. it stretches out into immense plains. The Andes, which enter Bolivia at its S. extremity, give off, near lat. 24°, a lateral E. range of no great elevation, which forms the boundary for a considerable distance between Bolivia and La Plata. About lat. 20° the Andes divide into two great chains, which run parallel to each other to between lat. 14° and 15° S., where they again unite. The farthest W. of these chains is called the Cordillera of the Coast, or of the Andes; and the farthest E., the Cordillera Real: including the intermediate country, they occupy a breadth of more than 230 m. N. of lat. 18°, and S. of that parallel of upwards of 300 m.; and cover at least 100,000 sq. m. of surface, which, however, is partly in Peru. Many lateral ridges, sent off by the Cordillera Real, cover the depts. of Cochabamba and Chuquisaca, together with a part of those of Potosí and St. Cruz de la Sierra: the principal of these transverse ridges branches off from the Cordillera about lat. 17° 10', and running N. past the city of Cochabamba, terminates within a few leagues of the town of St. Cruz de la Sierra. The summits of

the W. Cordillera generally appear in the form either of a truncated cone, or of a dome, and are often volcanic: those of the E. Cordillera, as seen from the W., offer a succession of sharp ragged peaks and serrated ridges, and are not volcanic, but in many parts highly metalliferous. The declivity of the Bolivian Cordillera is rapid on either side, but particularly so on the E.: the principal elevations of both Cordilleras are about lat. 18° to 14° S., where that of the W. chain is 22,360 ft. (Sahama); of the E. 21,286 ft. above the level of the sea. Many of the passes across both chains are between 15,000 and 16,000 ft. in elevation, or near the limit, in this region, of perpetual snow; while beneath the peaks of the Illimani there is a gorge, or valley, perhaps 18,000 ft. below the neighbouring summit, probably the greatest difference in elevation that has ever yet been observed between any two similarly contiguous points. (See *ANDES*.)

In the E. the country, which is, in many parts, very little above the level of the sea, is watered by the Beni, Mamore, Ubahy, Pilcomayo, and other considerable rivers; a few isolated ranges of hills are scattered over it, and in its S. part is the watershed between the sources of the Amazon and La Plata rivers, both of which receive considerable affluents from Bolivia; but neither this last-named tract, nor the isolated hills previously mentioned, appear to rise to any great height above the sea. The whole region is extremely fertile; but it is nearly in a state of nature, and covered with vast primeval forests. The desert of Atacama occupies the country between the Andes and the Pacific: it extends for about 250 m. along the coast, having a variable breadth of from 30 to 60 m. It is never refreshed by rain, and is almost as sterile and worthless as the Sahara. The surface, which is undulating, and in parts hilly, is covered with loose sand; the only habitable parts being the narrow strips along the banks of the rivers.

There are numerous valleys in the Andes; the principal is the great valley of Desaguadero, between the two Cordilleras, extending from lat. 15° to 19° $30'$ S., having an area (including the Lake of Titicaca in its N. part) of 18,500 sq. m.

Rivers.—Lakes.—The principal rivers are the Beni, Mamore, and the others which unite to form the Madeira, the largest affluent of the Amazon, and which run mostly in a N. direction; and the Pilcomayo, one of the chief branches of the Plata, which waters the S. part of the country, flowing mostly in an E. direction. Bolivia includes the E. and S. shores of the largest accumulation of fresh water on the S. American continent—the lake Titicaca, which occupies an area of 4,000 sq. m. at the height of 12,847 ft. above the ocean, an elevation superior to that of the highest summits of the Pyrenees. (See *TITICACA*.) It contains numerous small islands, from one of which, celebrated for some Peruvian ruins, it derives its name: the only outlet for its waters is the river Desaguadero, running from its SW. extremity through the valley to the small lake of Aullagas; which latter, having no outlet, is kept at the same level by spontaneous evaporation. In the E., lakes are numerous, and some of them, as those of Ubahy and Grande, 50 or 60 m. in length; but they have been little explored by Europeans.

Climate.—Rain, as already stated, never, or but very rarely, falls on the coast; in the plains to the E. of the Andes, the rainy season, which is identical with summer, lasts from October to April, during which the rains are almost continuous, and the rivers inundate the country to a great extent. In the plains, the climate is excessively hot, and far from healthy; but in the valley of the De-

saguadero, 13,000 ft. above the level of the sea, it is temperate, and snow falls in Nov. and April, at the beginning and end of the summer season. The winter, from May to Nov., in the Desaguadero valley, is extremely dry, and although the nights are cold, the sky is serene and cloudless. Tremendous hail and thunder-storms are frequent on the mountains, and earthquakes on the coast. The reflection of the sun on the snow produces, in the higher regions in winter, a temporary blindness: few remarks as to comparative salubrity have met our eye; but the banks of the Beni have been particularised as remarkably healthy.

Minerals.—Gold is found in many places, especially on the E. declivity of the E. Cordillera, and in the sands of all the rivers which fall from that range into the Beni or its branches. Every one has heard of the riches of the silver-mines of Potosi; but it is supposed that they are nearly exhausted, and at all events they are now comparatively neglected. (See *POTOSI*.) Copper abounds at Corucucro, &c.: ores of lead and tin, salt, brimstone, nitre, and other volcanic products, are also found.

Vegetables.—The mighty forests which cover the banks of the E. rivers abound in the finest timber, fit for every purpose of ship-building, carpentry, &c. The cocoa of Apolobamba, Moxos, &c., is infinitely superior to that of Guayaquil (Ecuador): it is used by all classes, and is celebrated for its nutritious and restorative qualities. Tamarinds, the chirimoya, oranges, lemons, figs, sugar-cane, pine-apples, plantains, &c., flourish in profusion on the banks of the Beni.

Cascarilla, indigo, cotton, rice, coffee, grain, cinchona, copaiba, sarsaparilla, and other valuable drugs: gum-elastic, vanilla, dye-woods, tobacco, and canes of various kinds, are all produced in an extraordinary abundance E. of the Andes. Amongst other products, there is a species of cinnamon, called *camela de clavo*, said to differ only in the greater thickness of its bark, and darker colour, from the true cinnamon. The vegetation of the Desaguadero valley is peculiar: it has no trees; but the lower districts, if uncultivated, are covered with a very fine turf. There are here extensive plantations of quinoa (*Chenopodium quinoa*, Linn.) and of potatoes, which are found wild on the adjacent hills; but it does not ripen the drier European grains, nor are there any peculiar seasons for sowing or harvesting, both these operations being carried on consentaneously. In the narrow strips of land along the rivers that run through the desert of Atacama, maize is raised, with excellent fruits, cotton, sugar-canes, and the plant called *Arundo donax*.

Animals.—The tapir, jaguar, leopard, and six or seven sorts of monkeys, inhabit the banks of the Beni; guanaco, alpacas, a kind of hare, and a small animal of the family of *Rodentia*, whose burrowing often renders travelling on horseback unsafe, are found in the Desaguadero valley. Parrots, a bird of beautiful plumage, as well as a multitude of singing birds, including the thrush and whistler; several kinds of turkeys, &c.; several species of *Amphibia*, and an abundance of fine river fish, are met with in Bolivia: the E. plains are infested with myriads of annoying reptiles and insects. Vast herds of horned cattle feed on the banks of the rivers; horses, asses, and mules, are the other domestic animals: the climate of the plains is too hot for sheep.

People.—The inhabitants of Bolivia are of mixed race, with, on the whole, more European than American blood in their veins. Only about one-seventh of the population are aborigines, or, as they are commonly called, 'Indians.' The latter

are divided into a great variety of tribes, presenting considerable differences in their physical and mental endowments, disposition, and progress in civilisation. Some, on the Beni, are wild and warlike, and go naked, even the women wearing nothing but a few leaves tied round the waist; another tribe, the Maropas, in the immediate vicinity of the former, although also a warlike and proud race, evince considerable ingenuity and aptness for many sorts of work: they manufacture beautiful cloths; are pretty good carpenters; and are said to show a marked taste for music and painting, in which they were initiated by the Jesuits. The Indians are excellent sailors on their own rivers, and very dexterous in the management of their canoes, which are often 50 or 60 ft. in length, and of considerable burden; in these they frequently make long inland voyages, subsisting wholly on the wild animals and vegetables they may happen to meet with. Some of the Mosetene tribes on the Beni display a remarkable acquaintance with the medicinal qualities of plants, which they administer in cases of sickness. These, as well as some other tribes, are peaceable, friendly to strangers, and free from superstition. Not a few Indians, especially in the Desaguadero valley, and on the coast, where the Quichua language is spoken, have been converted to the Catholic faith: such as have embraced Christianity, instead of going naked, or leading a roving life, wear a light dress of cotton, have fixed dwelling-places, and apply themselves to agricultural pursuits, though in these they are said to make but little progress. The foreign settlers are mostly of Spanish descent in the mining districts, and the valleys of Cochabamba and Cacha Pilco: those of the pure African race are few; but those of mixed blood are numerous on the coast.

Manufactures chiefly consist of cottons, the best of which are made at Oropesa, almost exclusively by women; woollens, of the hair of the llamas and alpacas, the best at La Paz: hats, of the wool of the vicuña, at St. Francisco de Atacama; glass at Oropesa; vessels of silver wire in the mining districts; fans, parasols, and plumes of the feathers of the American ostrich, by the Indians.

Commerce.—The commerce of Bolivia is at present not very considerable. This does not arise so much from the low state of industry, or the apathy of the people, as from the difficulties they have to encounter in bringing their produce to market. They have not yet learned to avail themselves of the means afforded by the great rivers of S. America, for opening an intercourse with the ports on its E. shore. At present, nearly all the commodities brought from Bolivia to Europe come through the ports on the Pacific, to reach which they have to be conveyed first by toilsome passages against the currents of the rivers to the foot of the Cordillera, so fatal by its rigorous climate to the Indians of the plains; and then across the Andes, the passage of which has been considered by Condamine as equivalent to 1,000 leagues of transport by sea. The country W. of the Andes, besides being a desert, has no really good harbours, and is traversed by but one road, that from Oruro to Cobija (the only Bolivian port), and that is practicable only for mules and llamas. Cobija, though it has been made a free port, is, owing to these disadvantages, little frequented. The arrivals, in the year 1863, amounted to 126 vessels, of 20,745 tons burden. The total value of the imports was 3,351,998 piastres, and of the exports 2,500,000 piastres. The exports to the United Kingdom, in the year 1863, were of the total value of 259,196*l*. They consisted of copper ore, 108,147*l*; regulus, 62,024*l*; copper unwrought and part wrought,

8,524*l*; guano, 76,784*l*; tin, 2,786*l*; and other articles to the value of 981*l*. The imports from the United Kingdom into Bolivia are altogether insignificant, not amounting, on the average, to 1,000*l* per annum.

The E. and most fertile portion of Bolivia is traversed by the Madeira, and other navigable affluents of the Amazon, on the one hand, and by the Pilcomayo, and other affluents of the Paraguay, on the other; so that, if the extraordinary facilities which these great rivers afford for penetrating into the interior of S. America be ever made use of, the products of Bolivia will meet with a ready and advantageous outlet; and her all but boundless capacities of production, which, at present, can hardly be said to be in any degree availed of, will receive a stimulus, of the influence of which we can form no adequate idea.

Within the Brazilian dominions, not very far from the Bolivian frontier, a short break, of 3 m. only, separates a tributary of the Amazon from one of the Plata river: were these streams connected by a canal, there would be a continuous water communication, for the most part navigable, through the heart of S. America, from Buenos Ayres, in lat. 35° S., to the mouth of the Orinoco, in nearly 9° N. The Bolivian government is endeavouring to promote internal traffic, by offering grants of land to persons settling, and considerable premiums for the establishment of steam navigation on the S. affluent of the Amazon.

The public revenue in 1862 amounted to 1,976,000 piastres; the public expenditure to 1,739,000 piastres. The public debt in the same year was only about 1,500,000 piastres, inclusive of a 'war loan' of 1,000,000 piastres raised in the year 1857.

The standing armed force is limited to 2,000 men, and there is a navy of three small vessels with 24 guns.

History and Government.—Bolivia, under the name of Upper Peru, formed, previously to the battle of Ayacucho in 1824, a part of the Spanish viceroyalty of Buenos Ayres. The republicans, under General Sucre, having then defeated the royalists, the independence of the country was secured. Its present name was given to it in 1825, in honour of the liberator Bolivar, who, on being requested, drew up a constitution, which was adopted in the year following. This constitution, which was exceedingly complicated, vested the executive power in a president for life, with the privilege of naming his successor; and the legislative functions in three bodies, a senate, tribunes, and censors. The code and constitution of Bolivar were soon after abandoned; but the legislative powers are still, nominally at least, vested in the three bodies above named; and the executive power is in the hands of a president elected for life.

BOLKHOF, or **BOLCHOW**, a town of Russia in Europe, gov. Orel, cap. distr., on the Nougra, 36 m. N. Orel. Pop. 19,400 in 1858. It is well built of wood, has numerous churches, with manufactures of hats, gloves, and stockings, and a considerable trade in hemp, linseed oil, tallow, and hides.

BOLLÈNE, a town of France, dép. Vaucluse, cap. cant., 24 m. N. Avignon, on the railway from Lyons to Marseilles. Pop. 5,007 in 1861. The town stands on the declivity of a hill, and has filatures of silk and dye-works. Various remains of antiquity have been found in the vicinity.

BOLOGNA (an. *Bononia*), a city of N. Italy, cap. of the province of the same name, between the rivers Reno and Savena, on the verge of the valley of the Po, at the foot of the hills forming the commencement of the Apennine chain; and

on the railway from Milan to Ancona, 22½ m. SE. Modena, 25 m. SW. Ferrara, and 399 ft. above the level of the Adriatic. It is nearly 1½ m. in length by 1½ m. in breadth, and 4 m. in circ.; is walled, and divided into four quarters. Pop. 96,660 in 1862. Except one square, it is indifferently built; streets crooked and narrow; houses mostly three stories high, in a palace style of architecture, chiefly of brick fronted with stucco, with deep projecting roofs, and generally surrounded with arcades. The *Piazza Maggiore*, or principal square, boasts of many fine buildings; amongst them are the *Palazzo Pubblico*, the seat of the courts of justice: in the centre of the square is a fountain, adorned with a statue of Neptune, reckoned one of the best modern statues in Italy, the work of Giovanni di Bologna. In the middle of the city stand the two leaning towers, inclining in different directions: that of Asinelli, 320 ft. high, inclines about 8½ ft.; Garisenda, 145 ft. in height, 8 ft. It is said that from the top of the former 108 cities may be seen. Bologna has 74 churches, 35 convents for monks, and 38 for nuns. But many of the convents have recently been closed, and the inmates dispersed. The cathedral, built A. D. 482, has the meridian line by Cossini traced on its floor, and possesses the Annunciation (the last work of Lodovico Caracci), and other fine paintings. The church of Madonna di San Luca, 8 m. distant, has a covered walk to it the whole way from the city. The university, one of the oldest and most celebrated in Italy, owes its origin to the Emperor Theodosius, A. D. 425, and was restored by Charlemagne; it has a library of 200,000 vols., and was formerly attended by many thousand students; but it has declined in celebrity, and at present is not attended by above 1,000. There is another public library, the legacy of a clergyman, containing 88,000 vols. and 4,000 MSS.: there are also cabinets of mineralogy, natural history, and other physical objects; academies of sculpture, science, music, and the fine arts: the whole city abounds in pictures, statues, and other works of native artists. There is a public school for the poorer classes, where the rudiments of education, with Latin, arithmetic, singing and drawing, are taught gratuitously; nine hospitals; a *monte di pietà*; and many other benevolent institutions. The manufacture of crape, for which the city has been long famous, and which was at one time very extensive, has declined within the last thirty years. There are manufactures of silk, glass, sulphuric acid, nitric ditto, kid gloves, wax candles, musical instruments, paper, cards, *mortadelle* sausages, celebrated all over Europe, exclusive of preparations of wine, oil, hemp, flax, and other natural produce. Bologna is an archbishop's see, and has been so since the 4th century, and the court of appeal for the four provinces of Bologna, Ferrara, Ravenna, and Forlì, sits here, and consists of six judges. The Bolognese are courteous and affable, independent, and remarkable for their love of liberty; industrious, quick, ingenious; ardent alike in their friendships and enmities; the women handsome. The middle classes are well informed; they are fond of the casinos, or reading-rooms, conversazioni, and theatres, of which there are three. The higher classes are wealthy; the lower bold, turbulent, and noisy. The prevailing dialect is not in use elsewhere; there is a tendency to pronounce words with masculine terminations, and in other respects it is the coarsest in Italy. The proportion of illegitimate births is as one to seven. No Italian city, Florence excepted, has produced so many celebrated men in science and the fine arts. Bologna always assumed the title

of 'learned,' and had the motto *Bononia docet* on its money and public buildings, as well as the word *libertas*. It has given birth to eight popes (including Benedict XIV.), nearly 200 cardinals, and to more than 1,000 literary and scientific men and artists; amongst them, the naturalists Galvani and Aldrovandi; the anatomists Mondino and Malpighi; the astronomer Marsigli; the mathematicians Manfredi and Canterzani; the brothers Zanotti, Ghedini, and Guercino; and the painters Francia, Guido, Albano, Barbieri, Domenichino, the three Caracci, Zambeccari, and Aldini. The air of Bologna is pure, but subject to sudden changes, which produce frequent inflammatory diseases. Its environs, both on the hills and in the plain, are studded with a number of country residences in a richly productive soil.

This city, originally built by the Etruscans, was anciently called *Felsina*; it was subsequently occupied by a Gallic tribe, the *Boii*, who designated it *Bononia*. It received a Roman colony A. V. C. 658. A Christian church was built here so early as the 3rd century. Alaric besieged, but did not take it: it escaped Attila, and formed a portion of the exarchate of Ravenna. Pepin gave it to the Holy See, to which it belonged during the Carolingian dynasty; after which it was governed by its own magistrates; it was next governed by feudal nobles; but these having abandoned their pretensions, and been admitted as private citizens, it became a republic, extending its rule over all Romagna as far as Rimini. In the 13th century it fell again under the Holy See, to which it was finally annexed in 1506. In 1796 it was taken by the French, but restored to the Papedom in 1815. The city and provinces remained under Papal government till the year 1860, when it was annexed to the new kingdom of Italy.

BOLOTANA, a town of the island of Sardinia, Italy, prov. Alghero, 16 m. W. Bosa, near the centre of the island. Pop. 2,922 in 1858. The town is situated on a hill, and the air is said to be good. The contiguous country is productive of corn and pasture.

BOLSENA (an. *Vulsinium*), a town of central Italy, prov. Viterbo, 11 m. WSW. Orvieto. Pop. 2,170 in 1858. The town stands near the N. shore of the lake, to which it gives its name. It is surrounded by a high wall, flanked with towers and a deep ditch; but is remarkable only for the ruins, in or near it, of the temple of the Etruscan goddess Nortia, a granite sarcophagus, ornamented with bas-reliefs, and other remains of antiquity. This was anciently a place of great wealth and luxury. Pliny says (Hist. Nat. lib. xxxiv. § 7) that when taken by the Romans, anno 266 A. C., it contained no fewer than 2,000 statues. Having been destroyed by the conquerors and rebuilt, it was noted at a later period as the birth-place of Sejanus, the minister of Tiberius.

The lake of Bolsena continues, as of old, to be surrounded by finely-wooded hills—

Aut possitis nemorosae inter juga Volturni.

Juv. Sat. iii. 191.

It is of an elliptical shape, about 12 m. long, by 8 m. in breadth; its depth is various, but near the banks it is generally shallow; it is well stocked with fish. It has two islands, which, in Pliny's days, were believed to be floating. Its superfluous waters are carried off by the river Marta, to which it gives birth. The country round this lake is now become exceedingly unhealthy; a circumstance which has most probably occasioned the decay of Bolsena, as well as the total ruin of several other cities, that once gave life and animation to its banks. (Cramer's Ancient Italy, i. 221; Conder's Italy, iii. 84.)

BOLTON, or BOLTON-LE-MOORS, a flourishing bor. and manufacturing town of England, co. Lancaster, hund. Salford, par. Bolton, on the Croale, an affluent of the Irwell; 170 m. NW. by N. London, 81 m. ENE. Liverpool, and 10 m. NW. Manchester, on the London and North-Western railway. The pop. of the borough was 18,588 in 1801; it had risen to 32,973 in 1821; to 52,890 in 1841; and to 70,395 in 1861. The pop. of the parish was 29,826 in 1801; 50,197 in 1821; 73,985 in 1841; and 97,215 in 1861.

The appearance of the town scarcely corresponds with its real opulence and importance, a considerable portion of the houses being crowded in narrow irregular lanes, which are but indifferently paved and sewered. More recently great improvements have been effected; flagged footpaths have been formed in most of the streets, and the whole town has been completely lighted with gas; various new squares have been formed; and a considerable number of handsome houses and villas have been erected, mostly near the S. entrance. It is well supplied with excellent water, from a reservoir covering an area of 15 acres, placed at such an elevation as admits of this indispensable fluid being conveyed into the upper rooms of every house in town. This important improvement was effected by a company, under an act obtained in 1824, at a cost of 40,000*l*. The parish church of St. Peter's, on an eminence at the E. end of Bolton, is a plain ancient structure with a low tower, built of the dark red sandstone of the district. There are, besides, eight other churches, and the Methodists, Baptists, Independents, Unitarians, Catholics, Friends, and Swedenborgians have all one or more places of worship. The free grammar-school, founded in 1641, has an annual revenue of about 485*l*.: Ainsworth and Lempiere, compilers of the well-known dictionaries which bear their names, were masters of this school. Here, also, are National and British and Foreign schools, and Sunday schools. Among other endowed charities are—Gosnel's, which consists of lands producing 80*l*. a year, two-thirds of which is appropriated to a church lecturer, one-sixth to the grammar-school, the rest to the poor; Hulton's, lands and houses producing 277*l*. a year, for a church lecturer, apprenticing poor boys, and providing a classical teacher; and donations left by Mr. Popplewell, who died in 1829, and his sisters, amounting to 27,700*l*. 3 per cent. consols, for the promotion of religion, learning, and charitable purposes.

Bolton has an exchange, a town-hall, two cloth-halls, a theatre, assembly and concert-rooms, a dispensary, established in 1825, and three public libraries, all well-built modern structures.

The progress of Bolton has been greatly promoted by its improved communications. The Bolton Canal extends to Manchester (12 m.), and a branch from it to Bury; a railway from Bolton to Leigh (8 m.), and thence to Kenyon, where it joins the Liverpool and Manchester Railway, was opened in 1831. A railway along the canal banks, *via* Bury, to Manchester, was opened as early as 1833. Since then the great London and North-Western line, with all its branches, have come to form a network of railways in and around the town, connecting it in five different directions, with all the centres of industry in Lancashire, as well as throughout England.

The entire consequence of Bolton is derived from its manufactures, which were carried on at a very remote period. As early as 1337, some Flemish clothiers established themselves in the town; and in the reign of Henry VIII. it was famous for its cottons, that is, for a peculiar de-

scription of *woollen* goods that went by that name. Cotton goods, however, began to be produced in Bolton, in considerable quantities, about the middle of the last century. But the real prosperity of the town dates from 1770–1780, when the wonderful inventions of Arkwright, himself a native of Bolton, began to come into operation. From that epoch its progress has been rapid in the extreme; and it is now a principal seat of the cotton manufacture. The articles chiefly produced are—muslins, superfine printing calicoes, quiltings, and counterpanes, dimities, salteens, jeans, cotton shawls, &c. The principal manufacturers have warehouses in Manchester, where they generally attend on the Tuesday, to effect the sale of their goods; but sales are also effected on other days, though not to the same extent. The cotton factories are on a very large scale. There are upwards of 70 mills, which employed, in 1861, above 17,000 workers. There are also extensive bleaching grounds, besides paper mills, machine works, and large iron-foundries, where steam-engines, mills, and machines of various sorts are constructed. A great many coal mines have been opened in different parts of the par.; and the prosperity of Bolton, like that of the rest of the district in which it is situated, may be said to have originated in, and to depend upon, its supply of coal.

There is a joint stock banking company at Bolton; a private banking company, and branches of some other banks. The savings bank had, on the 20th Nov. 1848, 94,636*l*. of deposits.

Sir R. Arkwright, the inventor, or at all events the introducer, of the spinning frame, was a native of Bolton. He was the youngest of a numerous family, and was brought up to the humble occupation of a barber. Bolton, also, was the birth-place of Samuel Crompton, the inventor of the mule-jenny, and one of the founders of the cotton manufacture. A bronze statue to his memory was erected in 1862 by the inhabitants, at a cost of 2,000*l*.

The Reform Act conferred upon Bolton the privilege of returning two mem. to the H. of C. The limits of the parliamentary bor. and municipal bor. coincide, the pop. of both, in 1861, being 70,395. The constituency, in 1864, consisted of 2,131 registered electors, all 10*l*. householders.

The borough is governed by a mayor, 12 aldermen, and 86 councillors, assisted by a recorder. The mayor is chosen by the aldermen; these, by the councillors; and the councillors by such of the burgesses as are qualified to vote for members of parliament. Petty sessions for the bor. are held every Monday and Thursday. Bolton is the seat of a county court, and the centre of a union under the Poor Law Amendment Act, which comprises 26 other townships and chapelrys. The rental assessed to poor rate amounted to 126,873*l*. in 1861, and the capital assessed to property tax to 178,998*l*.

The parish within which the borough is comprised extends over 31,390 acres, and includes 19 other townships, chapelrys, and hamlets; the entire population, in 1861, being 97,215. The parish is geologically situated in a large coal formation, and its surface is for the most part of a peaty nature. It contains numerous quarries, some of excellent flagstones, a few of roofing slate and veins of lead; but of these none are at present wrought. Three small streams (the Tonge, Croale, and Bradshaw) take their rise in the hills that overlook the town. It contains a few well-wooded and romantic valleys, but its general aspect is barren and cheerless, with scarcely a tree visible. About one-fourth part is under the plough; of the rest no inconsiderable portion consists of unclaimed mooses; and though the land increases in

value near the town, such is not the case in its northern township. Bolton is a place of considerable historical interest: its inhabitants from a remote period were distinguished for their archery, which is still continued as a sport, there being a target ground near the E. entrance of the town, for the use of a society of archers, who shoot for prizes during the summer. The labouring classes were formerly accustomed to settle their quarrels by single combat, or by what is called an 'up and down' fight. Death often followed from these brutal contests.

At the commencement of the civil war, the inhabitants took the parliamentary side, and held out till 1644, when, after a desperate struggle and several repulses, the town was at length taken by the Earl of Derby, who held it till after the battle of Worcester. He was subsequently taken and beheaded here.

BOMBA, a village of Southern Italy, prov. Chieti, cap. cant., on the Monte Pallano, watered by the Sangro, 18 m. WSW. Vasto. Pop. 8,179 in 1861. The parish church is one of the handsomest in the province. On the mountain on which Bomba is situated are the ruins of walls, gates, and towers, on the most gigantic scale. They are formed of enormous blocks of stone, united without cement, after the Etruscan fashion. Large caverns have also been excavated in the rock, and coins of the most renowned cities of Magna Græcia have been found among the ruins. Nothing authentic is known with respect to the history of these extraordinary ruins. (*Del Re Descrizione de l'Abruzzo*, ii. p. 421.)

BOMBAY (PRESIDENCY OF), the second largest in extent of the nine great provs. of British India; between lat. $14^{\circ} 18'$ and $28^{\circ} 30' N.$, and long. 67° and $76^{\circ} 25' E.$; having W. the Indian Ocean, and Beloochistan; N. Gundava and the Punjab; E. the Nizam's dom.; and S. Mysore and the Madras presid.; area 142,048 sq. m.; pop. 12,802,544 in 1862. (Statistical Tables relating to the colonial and other possessions of the United Kingdom, Part ix., presented to both houses of Parliament, 1864.) The presidency is divided, for administrative purposes, into four great territorial divisions, exclusive of Bombay Island, which is under the direct control of the Governor. The divisions are:

1. Poonah, comprising the collectorates of Tanna, also called Northern Konkan, Satara, Ahmednuggar, and Candesh.

2. The N. division, including the collectorates of Surat, Baroach, Ahmedabad, and Kaira, and the provinces of Gujrat and Kattywar.

3. The Sindh division, in which are the collectorates of Karrachee, Hydrabad, and Shikarpur, the province of Cutch, and the territory of Khairpur.

4. The S. division, comprising the collectorates of Rutnagherry, also called Southern Konkan, Belgaum, Sholapore, and Dharwar, and the province of Kolapore.

Physical Aspect.—The NW. parts of the presid. are more level than the S. and E.: Ahmedabad, Kaira, and Baroach are well watered, and some parts amongst the best cultivated and peopled lands in India; Surat is more undulating, its E. part hilly and jungly, and much of it waste; Candesh is interspersed with low barren hills; some spots are in good cultivation, but much is covered with jungle; Ahmednuggar abounds in rocks, hills, and waters; Poonah is irregular and mountainous, but with many fertile valleys; Darwar is an elevated table-land; and the Konkan a long narrow tract stretching for 225 m. along the sea-coast, having E. a chain of rocky hills, formerly crowned by a number of fortresses, and W. a low, straight

shore, broken into numerous bays and harbours, till lately affording a resort to pirates, by whom it had long been infested.

The mountain ranges in the S. belong to the W. Ghauts; in Candesh to the Sydaree (a continuation of the former) and Sautpoora ranges; and N. the Nerbudda—they are branches from the Vindhyan chain. The principal rivers are the Nerbudda, Taptee, Mhye, and Saubermuttee, falling into the Gulf of Cambay, in the N.; in the central parts, the earlier branches of the Godavery and Beemah; and in the S. the Kistnah and Toombudda.

Porphyritic trap forms the inland hill ranges; sandstone, with many shells, and conglomerates containing fossils, are common in N. Konkan and the N. parts of the presid. A primitive range of red sandstone formation, extending from Delhi, terminates at the head of the Gulf of Cambay. The great basaltic district of India, which commences at Nagpoor, occupies the whole coast from between Goa and Bombay to the head of the Cambay gulf; which coast has been the theatre of volcanic phenomena, earthquakes, and tremendous whirlwinds, even within the last few centuries. Basalt and amygdaloid, yellowish porphyry, and green claystone, are found at Salsette and Elephanta, and near Rattanpoor an abundance of cornelian stones, embedded in red gravel. A black soil, well suited to the culture of cotton, is widely diffused throughout the centre of this presidency.

The mean temp. at Bombay, about the centre of the pres. is between 81° and 83° Fahr. But though Bombay be rather unhealthy, the Konkan and Malabar coast generally is by no means so, except in the marshes below the Ghauts. The climate of the N. distr. is reckoned amongst the worst in India: the thermom. in the hot season rises sometimes to 116° Fahr.; and Europeans are affected with fever, ague, and other tropical complaints.

Vegetable Products and Animals.—Teak of very good quality grows on the Ghauts and lower hill-ranges, and in some parts poon is plentiful; the district of Surat abounds with the wild date and babool. Cocoa palms cover an immense tract of sandy land, bordering the coast of the Konkan; and various other trees of the same family are abundant. The N. part of this presidency is remarkable for the great variety of fruits it produces; the district of Ahmedabad, in particular, is noted for the size of its mango-trees, and their fruit. Rice, cotton, and the other chief articles of culture, will be mentioned presently.

Wild elephants are met with in the Ghauts, that is, in the woody chain of mountains running along the W. side of Southern India; and tigers, panthers, leopards, and hyænas, are numerous in the jungles and wooded parts; buffaloes, wild boars, deer, antelopes, jackals, generally so, and in the N. the flying macanoo is found. Birds in great variety inhabit this part of India.

People.—Besides Hindoos, Mahomedans, Parsees, Jews, and Europeans, many distinct tribes, some of whom are supposed to be aboriginal, inhabit this presidency. Bheels live E. of the Ghauts, from the hills near Poonah to the banks of the Nerbudda and Taptee; the Ramooses meet these S. of Poonah; W. of the Ghauts, and around the Gulf of Cambay, Koolies, a very barbarous tribe, reside; Catties, Aheers, and Babreeas, are found in Kattywar; Dhoobias and Koombies in Gujrat. The Jain sect is very numerous in the Gujrat districts; and nearly all the Parsees in India have settled within the limits of the Bombay presidency. A tribe, called Boras, resides in the district of Surat and its neighbourhood; these people are Mahomedans as to religion; but in all other respects are similar to Jews.

Agriculture and Cattle.—Rice and cotton are the chief articles of culture; compared with these, the other great staples of Indian produce are grown only in insignificant quantities. Rice is largely grown in the central parts of the presidency; and in S. Koncan it constitutes 4-5ths of the whole crops. The culture of cotton is extensive, and the produce is an important article of export. The cotton of this side of India is decidedly superior to that of the other; that grown in Broach is particularly good. Sugar and indigo are cultivated in Candeish, where the first occupies a considerable extent of country, and where late reports speak of an intention on the part of government to erect sugar-mills. The indigo of Candeish has been said to be as fine as that of Bengal, but wanting in depth of colour. The mulberry-tree grows in some parts with immense rapidity, and great exertions are being made by various private individuals to introduce the culture of silk, and to render it important as an article of trade. Wool has lately been imported in considerable quantities from Bombay, and efforts are making by the government to improve the breed of sheep, by importing stocks into the presidency from Caubul, Sinde, and Cutch, and crossing them with Merino and Saxon breeds from the Cape of Good Hope. The cattle of Gujrat are of a remarkably large size, and in great request throughout India; at Surat there is a diminutive species of ox, 2 ft. only in height. S. of Surat the ox supersedes the horse for both draught and carriage: below the Ghauts, the only other domestic animal is the buffalo. Poultry are not generally kept by the natives.

Public Revenue.—The total revenue and expenditure of the presidency in the three years, 1860-1862, was as follows:—

Years ended 30th April	Revenue	Expenditure
	£	£
1860	7,277,664	9,509,611
1861	8,407,167	7,712,041
1862	8,512,633	6,306,542

The revenue is derived chiefly from three great sources, viz. the land-tax, opium, and customs. The land-tax, including excise, and Sayer and Moturpha—Sayer being variable imposts such as town duties, and Moturpha taxes on houses and trades—brought a revenue of 2,872,746*l.* in 1860; of 2,970,864*l.* in 1861: and of 3,082,913*l.* in 1862. Opium realised 1,533,325*l.* in 1860; 2,441,679*l.* in 1861; and 2,438,458*l.* in 1862. Finally, the customs were productive of 1,060,261*l.* in 1860; of 1,034,701*l.* in 1861; and of 920,732*l.* in 1862. It will be seen that while both the land-tax and opium increased during the triennial period, the customs decreased in productiveness. Besides these three great branches of revenue, there are several minor ones, such as stamps, income and assessed taxes, post-office and mint profits, imposts on salt, and tributes from native states. Stamps produced 281,517*l.* in 1862; income and assessed taxes, 407,286*l.*; post-office, &c., 480,781*l.*; salt, 840,802*l.*; and the tributes and contributions from native states, 101,390*l.* By far the largest item of expenditure is that for military charges, which amounted to 5,399,581*l.* in 1860; to 3,813,624*l.* in 1861, and to 2,372,431*l.* in 1862. The extraordinary decline of this military expenditure, in the short space of three years, is a very remarkable fact.

Trade and Roads.—This presid. is much less favourably situated than that of Bengal for commerce and internal communication. It has no large navigable river, like the Ganges, intersecting

its richest provinces; the streams of the Deccan are too impetuous for navigation, and the internal trade is thus wholly dependent on land carriage. Until within the last ten years, the country suffered greatly for want of good roads; but this is now being remedied by the establishment of a complete network of railways. The chief line in the presidency is the Bombay, Baroda, and Central India railway, which connects the capital with Agra and Central India, by way of Surat, Baroda, and Neemuch, and the valleys of the Mhye and the Chumbul, and throws off branches from Surat along the valley of the Taptee, into the great cotton districts of Candeish and Berar, and the coal and mineral districts of the Nerbudda. Most of the ordinary roads are impassable for carriages, and merchandise has therefore to be conveyed chiefly by *pack-bullocks*; indeed, the only good line of road is from Panwell to Ahmednuggar, a distance of 165 m.; and it is both unconnected with the S. of India, and at a distance unavailable for the produce of Candeish and Berar.

For an account of the foreign trade of the presidency, see BOMBAY (City).

History.—In 1617, Bombay was created a reGENCY, and made supreme over all the company's establishments in India; but in 1707 Calcutta was declared independent of it. In 1726 a chartered court for penal causes was established: and in 1775 Salsette, Bassein, and the revenues of Baroach, and other places, were acquired by treaty with a Mahratta chief. In 1780 Dohoy and Ahmedabad were taken, but restored to the Mahrattas in 1782. In 1803 Baroach and Ahmednuggur districts were acquired, and the latter, with Poonah and Ahmedabad, were formally ceded in 1817. Koncan, Marwar, Candeish, and the remainder of the *ex-peishwa's* dom., fell to the British in 1818. The seat of gov. was transferred from the city of Surat to that of Bombay in 1866. (For further particulars as to the history, government, army and navy, trade and commerce, &c., of the presidency of Bombay, see INDIA, and also the following art.)

BOMBAY (*Buen Bahia*, Portuguese, a good harbour), a marit. city of Hindostan, prov. Aurangabad, cap. of the above presidency, and, after Calcutta and Canton, the greatest emporium of the East. It is built at the SE. extremity of the small island of the same name, contiguous to the Koncan coast, 650 m. NW. Madras, 1,050 m. SW. Calcutta, and 150 m. S. Surat; lat. 18° 56' N., long. 72° 57' E. Pop. 566,119 in 1861. Bombay Island belongs to a group, including Salsette, joined to it by a causeway, Caranja, Elephanta, Colabba, Butcher, Woody, and Cross Islands, which, being disposed in a crescent manner, enclose its harbour. The island itself is of an oblong shape, 8 m. in length, N. to S., by about 2 or 3 m. wide; it is for the most part low, swampy, and barren, and was formerly very unhealthy; but in this respect it has been much improved, by means of drainage and embankments. The city consists of two portions: the old town, or fort, and the new town, or Dumm-garee. The fort stands on the SE. extremity of the island, on a narrow neck of land immediately over the harbour; it is surrounded by extensive fortifications, which, however, are somewhat neglected, and would, probably, be of little use in war. The old castle stands about the centre of the fortifications, on the sea side; while a long semi-circular line of ramparts stretches along the land side. The Portuguese began to build the town within the walls in the same style that has ever since been followed: the verandahs of the houses are supported on wooden pillars, and shut up with Venetian blinds; the upper storeys project beyond the lower, and the roofs are sloped and tiled.

Bombay bears no external resemblance to Calcutta or Madras, and its best streets scarcely equal their suburbs. There is no Asiatic magnificence: everything has an air of age and economy, though the shops and warehouses are built on an extensive scale. The new government-house, a large structure, somewhat like a German free-city *stadthaus*, is little used except for holding councils, and other public business; there is a castle, now occupied as an arsenal, and near it are the capacious docks, capable of accommodating ships of any size. These establishments, together with the barracks and the other buildings within the fort, have cost very large sums. The supreme judicial court, or *sudder adawlat*; the cathedral; the Elphinstone institution and great medical college; the town-hall, designed by Colonel Cowper, and built at an expense of 60,000*l.*; and the office of the gov. secretary, on the green, an open irregular area, are amongst the chief edifices; there are many Portuguese and Armenian churches, both within and without the walls, some synagogues, and a vast number of mosques and temples. The new town of Bombay is larger than that within the fort, and in a low, wet, unwholesome situation, N. of the latter, and separated from it by the esplanade; it extends in one part from the harbour, on its E., quite across the neck of land to Back Bay. For seven or eight months of the year the inhab. suffer from inundation, or its effects, few of the ground-floors of the houses being above high-water mark. The most remarkable structure in the new town is a pagoda, the largest in Bombay, dedicated to the worship of *Momba Devi*. Substantial buildings now extend to 3 m. from the fort, outside of which most of the poorer classes live in huts of clay, roofed with mats of palmyra leaf. Ground in the city is very valuable, especially within the fortress. Most part of the island belongs to Parsees, who form a wealthy and influencing part of the population, and are comparatively more numerous than in any other large town in India. They are the descendants of the Ghebers, driven out of Persia by Shah Abbas: a comely, tall, athletic, active race, fairer than the other natives; mild in their manners; bold, enterprising, intelligent, persevering, successful in the pursuit of wealth, and contributing greatly to the prosperity of the place.

It is said that there is not a European house of trade in Bombay in which one of them has not a share; and generally it is the Parsees that produce the larger part of the capital. In every department connected with ship-building and the docks, the Parsees have the chief interest; the whole N. quarter of the fort is occupied by them; their country houses are furnished with European decorations; and they make no scruple to eat, drink, and hold constant communication with Europeans. They have many temples for the adoration of Fire, and morning and evening all the males repair to the esplanade, and prostrate themselves in worship to the sun; the females do not join in these devotions, but of whatever rank, continue, as in patriarchal times, to fetch water from the wells. The Parsees are firmly attached to their original customs, amongst which is that of exposing their dead to be devoured by vultures, in buildings open at the top for the purpose. They are dirty in their persons, but their women, although enjoying more liberty than any others in India, are certainly the chastest. The Parsees provide for their own poor, and not a single courtesan of their sect is to be found. Of the rest of the population, about two-thirds are Hindoos, one-fifth part Mohammedans, and one-thirteenth part Christians. The floating pop., besides the native

and British seamen, consists of Arabs, Persians, Goa-Portuguese, Parsees, and the crews of vessels belonging to most other nations frequenting the port. The harbour of Bombay is one of the largest, safest, and most commodious in India; it is 8 m. in diam., and affords good anchorage and shelter for fleets of ships of the largest burden. It is also the only great inlet in India where the rise of the tides is sufficient to permit the construction of wet-docks on a large scale, the spring tides ordinarily rising 14, and occasionally 17 ft. Frigates and ships of the line may be built at Bombay in a very durable manner. Previously to 1819, a considerable fleet of small armed vessels was kept at Bombay, to check the piracy which had prevailed on the Malabar coast ever since the time of Alexander the Great; but at this epoch the nuisance was finally abated, by the capture of the strongholds of the pirates in the Arabian and Persian gulfs.

Bombay has a more extensive trade with China than either of the other presidencies; the rest of its commerce is chiefly with Great Britain, the Arabian and Persian gulfs, Calcutta, Cutch, Sind, and the Malabar coast. The imports from China consist principally of raw silk, sugar, and sugar-candy, silk piece-goods, treasure, &c. The principal articles of export to China are, raw cotton, opium, principally from Malwa, pearls, sharks' fins, fish maws, sandal-wood, &c. The exports to China being much larger than the imports, the returns for several years past have been made to a large extent by bills on London, drawn by American and other houses in China, and in bills on the Indian government, drawn by the agents of the E. I. Company in China. The trade with the United Kingdom has been regularly increasing since the abolition of the restrictive system. The chief articles of import thence are, cotton and woollen stuffs, cotton yarn, hardware, copper, iron, lead, glass, apparel, fur, stationery, wine, and some minor articles. The total value of these imports—*exclusive of treasure*, which is very large, amounting to from 7 to 9 millions per annum—was as follows in the years 1861 and 1862:—

Imports from	Merchandise	
	1861	1862
	£	£
United Kingdom . .	7,337,434	7,380,879
Aden	116,072	150,976
Africa, Coast of . .	133,337	191,223
America, North . .	43,212	48,698
Arabian and Persian Gulfs	419,603	490,189
Batavia and Java . .	3,198	—
Belgium	38,650	18,916
Cape of Good Hope . .	628	1,076
Ceylon	7,032	3,976
China	919,267	821,760
France	74,196	78,500
Germany	3,220	11,305
Gibraltar	—	—
Hamburgh	—	—
Manilla	—	—
Mauritius and Bourbon .	4,613	14,491
Mediterranean Ports .	—	—
New South Wales . .	64,071	42,851
New Zealand	1,189	117
Penang, Singapore, and Malacca	161,719	97,598
Saint Helena	29,862	3,926
Slam and Burmah . .	8,556	48,641
Sonmesane and Meckran	16,221	16,249
Suez	64,014	43,969
Sweden	13,336	13,606
Total	9,448,210	9,468,965

The principal exports to Britain are, raw cotton,

raw silk from China and Persia, ivory, pepper and spices, piece-goods, coffee, and wool. The total value of these exports, in the two years 1861 and 1862, is shown in the subjoined table:—

Exports to	1861	1862
United Kingdom . . .	17,218,747	10,390,234
Aden	104,373	135,600
Africa, Coast of . . .	69,369	83,355
America { North . . .	119,350	52,145
{ South . . .		
Arabian and Persian Gulfs	808,387	841,578
Australia, New S. Wales	127	622
Batavia and Java . . .	5,358	4,159
Ceylon	16,931	18,619
China	8,098,584	6,610,758
France	207,340	171,121
Germany { Hamburg . . .	37,997	—
{ Other Ports . . .		
Gibraltar	—	—
Holland	17,733	—
Mauritius and Bourbon . .	82,696	69,828
Mediterranean Ports . .	—	17,844
New Zealand	90	—
Norway	7,830	14,498
Penang, Singapore, and	196,952	98,375
Malacca		
Siam	11,582	42,670
Sonmeance and Meckran .	21,177	11,887
Suez	125,888	64,159
Sweden	24	—
Total	17,150,543	18,622,462

There entered, at the port of Bombay, 3,163 vessels, of a total burden of 170,863 tons, in the year (ending 30th April) 1861; and 2,814 vessels, of 169,546 tons, in 1862. There cleared 3,330 vessels, of 152,939 tons, in 1861; and 3,052 vessels, of 155,449 tons, in 1862.

At Bombay, wages are higher than in Bengal; but provisions are also dearer. The markets are not equal to those of Calcutta, but superior to those of Madras. There are fewer Europeans at Bombay than at the other presidencies, neither are their salaries so high. The Bombay Native Education Society have their central schools here, which are well attended by native pupils. Several literary societies, and many charitable and religious institutions, have been established. Bombay is the seat of a Protestant bishop. Roman Catholics are numerous; one of the four vicars-apostolic of India, with direct authority from the Pope, resides at Bombay, where the Catholic bishop has five different churches, all of which, except one at Colabba Island, are endowed. The jurisdiction of the supreme court is confined to the island of Bombay, and to Europeans in the rest of the presidencies; the civil and criminal laws are those of England, but this court is not one of appeal from provincial courts, like the *sudder adawlat* at Calcutta. The garrison consists of about 4,000 troops, one-fourth of whom are Europeans.

Bombay is, next to Madras, the oldest of our possessions in the East; it was founded soon after the cession of the island to the Portuguese, and was ceded to Charles II. as part of Queen Catherine's dowry, in 1661; but the Portuguese governor refused to deliver it up, and it was not until 1664 that it came into our hands. In 1668 the city and island were transferred, by royal letters patent, to the E. I. Company. The seat of government was removed thither from Surat in 1686, and two years after Bombay was besieged by the Moguls. These were ordered to withdraw by Aurungzebe, which they did in the succeeding year; but plague, piracy, and rebellion continued for many years to devastate and disturb this colony. The first line of railway in India was opened in 1853, between

Bombay and Tannah, 20 m. NNE. At present, Bombay rules the whole NW. coast of India, and its influence is felt along the shores of Persia and Arabia.

BONA (an. *Approdismus*), called by the natives *Annabah*, i.e. place of jujubes, a marit. city of N. Africa, reg. Algiers, prov. Constantina, on a tongue of land projecting into a spacious bay (Gulf of Bona), near the mouth of the Seibous, in a somewhat unhealthy country; lat. 36° 53' 30" N., long. 7° 48' 20" E. Pop. about 12,000. It is surrounded with walls 30 ft. in height, and nearly 2 m. in circ., with four gates. The town and harbour are commanded by the citadel (*Kasba*), on a hill to the N. of the city, having thick walls and a circuit of about a quarter of a mile. The citadel was much injured in 1837 by an accidental explosion of gunpowder; but it has since been repaired, and made stronger than ever. Bona has been much improved since its occupation by the French. The streets are narrow and crooked, but there are several good houses, a good market, with shops, reading-rooms, coffee-houses, and even a theatre. The road of Bona is far from being safe, the NE. and E. winds throwing in a heavy sea. The Seibous was navigable when the Romans possessed Bona, and it might be rendered so again by clearing away a bar which has accumulated at its mouth, where there are but 3 or 4 ft., whereas, within this, there are 18 ft. water. Bona is the seat of a French judicial court; has manufactures of *bermouis* and other garments, tapestry, and saddles; exports corn, wool, ox-hides, and wax. It was formerly the centre of the French trade on this coast, and is at present the principal seat of the coral fishery. (See ALGERIA.) The Kasba was taken March 25, 1832, by a few French soldiers and sailors, the Turks left it, being dissatisfied with their leaders, having opened the gates to them. Bona was afterwards pillaged and burnt by the Arabs, but the French, having received reinforcements, took possession of it, and captured 115 pieces of cannon. About a mile to the S. are the remains of Hippo Regius, once a residence of the Numidian kings, and afterwards the episcopal see of St. Augustine. It was situated between the rivers Boojermah and Seibous, being about 2 m. in circ. Its chief relics are some large cisterns and part of the Roman walls. A swampy tract extends between it and Bona, probably its ancient haven. Hippo was taken by the Goths, and finally destroyed by Othman, the third caliph. Its materials served to build the modern town.

BONAVISTA, one of the Cape de Verde islands, which see.

BONDENO (an. *Padinum*), a town of central Italy, prov. Ferrara, at the confluence of the Panaro and Po d'Argento. Pop. 2,072 in 1862. The town lies at the mouth of a defile which leads across the Apennines.

BONERO, a town of Southern Italy, in the former kingdom of Naples, prov. Sannio, cap. cant., on the declivity of a mountain, 6 m. SSE. Larino. Pop. 4,769 in 1862. It has a fine palace and a magnificent parish church, with four houses of refuge.

BONIFACCIO, a town and sea-port of the island of Corsica, cap. cant., on a small peninsula at the S. extremity of the island, on the strait which bears its name, 45 m. SSE. Ajaccio; lat. 41° 23' 11" N., long. 9° 9' 16" E. Pop. 3,453 in 1861. The town is well built and fortified, but not strongly. Its port, which lies between the peninsula on which the town is built and the mainland, stretches nearly 1 m. inwards, has deep water throughout, and is one of the best in the Mediterranean. Its entrance, however, is not more than

from 80 to 90 yards broad, which renders it a little difficult of access.

BONIFATI, a town of Southern Italy, prov. Cosenza, 4 m. SE. Belvidere. Pop. 3,329 in 1862. The town has several churches, and a convent; a great number of silk-worms are raised in its environs.

BONDOUN, a country of W. Africa, which, like most others in the same part of the world, has not had its astronomical position precisely ascertained. On Kennell's map to Park's First Journey, it is placed between the lat. of $13^{\circ} 0'$ and $14^{\circ} 0'$ N., and between long. $10^{\circ} 10'$ and $11^{\circ} 20'$ W. On the map to Park's Second Journey the long. remains unaltered, but the lat. is removed one degree more to the N., with the whole of the traveller's route, in order to make that route agree with the few observations which were taken. Though powerful among its barbarous neighbours, it is a small state, not exceeding in length, from E. to W., 78 m., nor in width, from N. to S., 70; it is, however, very compact in form, and its area is probably not less than 5,000 sq. m. Its pop. may amount to 1,500,000 or 2,000,000. It is bounded E. by Bambock; SE. and S. by Tenda and the Simbani Wilderness (wooded, not desert); SW. by the same wilderness and Woolli; W. by Foota Toria; and on the N. by Kujaaga. Bondou is tolerably elevated among the Senegambian system of mountains, and some parts of its surface rise into considerable peaks. The land slopes towards the N. and W., as is shown by the direction of the rivers, the Fo-le-me holding a N. course to the Senegal, and the Nerico a SW. one to the Gambia. The sub-tributaries of these affluents are so numerous, that though neither of the first-class rivers (Senegal and Gambia) pass through Bondou, there are few districts better or more abundantly watered. As a natural consequence, vegetation is of a most vigorous kind; the hills are covered with thick woods, and in native fertility the soil is not surpassed by any in the world. The productions are the same with those of the neighbouring countries (see BAMBARA, BAMBOCK, &c.); but a winter or dry season harvest, though not quite peculiar to this country, is sufficiently remarkable to attract the attention of travellers. The corn, called by botanists, *Holcus cornuus*, from the depending position of its ear, is sowed about November, is in full vigour by the end of December, and is reaped in the early part of January. It is exceedingly prolific, and appears to bear a strong resemblance to the Arabic dhourrah. In climate and division of seasons, Bondou agrees also with the surrounding countries, but it appears to possess the advantage of being more healthy, and seems to be rather less infested by ferocious animals. The inhabitants differ essentially in complexion and manners from their immediate neighbours. They belong to the great Foulah family, next to the Mandingoes the most considerable of all the W. African nations. They have tawny or rather yellow skins, with small features, and soft silky hair. They hold the negroes to be their inferiors; and, when talking of different races, always class themselves among white people. They have, indeed, most of the distinctive marks of an Arab race; but though many of them speak a little Arabic, their native tongue bears no resemblance to that language, nor have they any legends that trace their origin farther E. than Foulado (literally, 'the country of the Foulahs'), near the sources of the Senegal. In industry, energy, and resources they are superior to their negro neighbours; they are tolerably good agriculturists, and are said to be well versed in grazing and dairy husbandry, though they

make no cheese. Cattle is their chief wealth, and they possess also a handsome breed of horses. There are, indeed, but few African countries where so many of the necessities, and even conveniences, of life are enjoyed, and that not by the rich only, but by the greater part of the population.

Centrally situated between the Senegal and Gambia, Bondou has become a high road for traffic; the slave dealers from the coast usually pass through it, and by their means a considerable commerce is carried on with the neighbouring and even distant countries. The native exports consist of corn, cotton cloths, some sweet-smelling gums, and probably sometimes cattle. The transit trade consists of slaves, salt, iron, Shea butter, and gold-dust. The government is monarchical, and the king is often at war with his Mandingoe neighbours.

The Mohammedan religion is very generally professed, but not exclusively; the king himself is a kafir (infidel), and it does not appear that any intolerance is practised by either sect; but the maxims of Islamism seem to have had some influence over the Bondou Foulahs, who are less hospitable than the poorer or more ignorant negroes.

Schools are established in the different towns, where children of all persuasions are taught to read and write. The character used is Arabic, and the instructors the Mohammedan priests; by this means Mohammedanism possesses a strong hold over the people.

Customs and duties on travellers are extremely high. An ass load of goods pays a bar (two shillings) at all places; and at Fathconda (the royal residence) a musket and six bottles of gunpowder, or the value of them, are exacted as the common tribute; besides which, neither the king nor any of his chief officers are delicate in requesting presents, which requests, under the circumstances, are, in fact, demands which cannot be evaded.

BONN, a very ancient handsome town of Prussia, cap. circ., prov. Rhine, on the left bank of that river, about 15 m. S. Cologne, on the railway from Cologne to Mayence. Pop. 20,857 in 1861. The principal celebrity of Bonn is derived from its university, founded in 1818, and intended to replace that of Cologne, suppressed by the French. Niebuhr, the historian of Rome, was one of its professors; and it has still to boast of some very distinguished names. There are, on the average, some 600 students. The electors of Cologne formerly resided here; and their castle, a building of immense extent, is now the university. The library that belonged to the university of Cologne, comprising from 80,000 to 100,000 vols., has been removed thither. In the museum of Rhenish antiquities, in the university, is an ancient monument, inscribed *Dea Victoria Sacrum*, supposed by some to be the identical *Ara Ubiorum* mentioned by Tacitus. (Annal. lib. i. § 39.) This, however, is doubtful. The cathedral, or metropolitan church, in the older Gothic style, with a high tower, has a statue of the Empress Helena, and is said to be built on the site of a church she had founded. There is also a good town-hall, theatre, &c. A fine avenue of chestnuts conducts to the Castle of *Poppelsdorff*, appropriated to the use of the university, containing the museum of natural history, and having attached to it a spacious and well-kept botanical garden. The situation of Bonn is delightful. It is one of the most agreeable towns on the Rhine as a place of residence. Beethoven, the musician, was born here on the 17th December, 1770.

BONNAT, a town of France, *dép.* Creuse, cap. cant., on a hill not far from the little Creuse. Pop. 2,712 in 1861. The place is distinguished by the old castle of Beauvais.

BONNET-LE-CHATEAU (ST.), a town of France, *dép.* Loire, cap. cant., 17 m. S. Montbrison. Pop. 2,280 in 1861. This is a place of great antiquity; it is situated on a Roman road, constructed by Agrippa, and occupies a picturesque position on the summit of a hill, surmounted by a fortress, said to be of the age of the Romans. Part of the ancient walls and towers, by which the town was formerly surrounded, still exist. It has a handsome Gothic church. Locks of various sorts are made here, and some lace; and the place has a considerable trade in timber, forwarded to the building-yards at St. Rambert.

BONNETABLE, a town of France, *dép.* Sarthe, cap. cant., on the Dive, 16 m. NE. Mans, near the railway from Paris to Mans. Pop. 4,956 in 1861. It has a castle, constructed in the 15th century. The inhabitants are principally engaged in the cotton manufacture.

BONNEVAL, a town of France, *dép.* Eure et Loire, cap. cant., on the Loire, in a fertile valley, 19 m. SSW. Chartres. Pop. 3,006 in 1861. Streets broad and well laid out. It was formerly fortified, and had an abbey. The church is surmounted by a very high steeple. It has a cotton mill, with manufactures of calicoes, carpets, coverlets, &c., and some considerable tanneries.

BONORVA, a town of the island of Sardinia, prov. Sassari, 18 m. ENE. Bosa, in a healthy situation, on the declivity of a mountain. Pop. 4,879 in 1858. The town has two convents, one of them for Jesuits. Aharas, or *dépot d'étalons*, was established here in 1808.

BOODROOM, or **BODRUN**, a sea-port town of Asiatic Turkey, in Natolia, coast of the Archipelago, opposite the island of Cos, 100 m. S. Smyrna; lat. $37^{\circ} 1' 21''$ N., long. $27^{\circ} 25' 18''$ E. Pop. estimated to be 12,000. The town is beautifully and conveniently situated on a rising ground, at the bottom of a deep bay, commanding a view of the island of Cos, and the southern shore of the Ceraunic gulf, as far as Cape Krio. It has a small but well-sheltered harbour, with from two to three fathoms water, resorted to by Turkish cruisers, and having generally a ship of war on the stocks. In the bay outside the harbour there are from 10 to 20 fathoms. Houses of stone, and irregularly scattered along the shore of the bay, being interspersed with gardens, tombs, and cultivated fields. Streets narrow and dirty, and the bazars wretched. The castle or fortress, situated on a projecting rock on the E. side the harbour, was built by the Knights of Rhodes in 1402; it is still in tolerably good repair, and mounts 50 pieces of cannon. The serai, or palace of the moosellim or governor, and some small mosques, stand along the western margin of the harbour.

It is supposed that Boodroom occupies the site of the ancient *Halicarnassus*, the country of Herodotus, and of Dionysius the historian. Above the town are the remains of a theatre, 280 ft. in diameter, and which seems to have had 86 rows of marble seats. Old walls, exquisite sculptures, fragments of columns, and other relics, evincing its ancient splendour and importance, abound in the town and its vicinity. (Beaufort's Karamania, p. 95; Turner's Tour in the Levant.)

BOONDEE (Bundi), a rajahship of Hindostan, prov. Rajpootana, distr. Harattee, under protection of the British; estimat. area, 2,291 sq. m. It was formerly much more extensive, but Kotah and its territory have been separated from it; in 1817 more than half the revenues were usurped by

Scindia and Holkar, and the peasantry, impoverished by endless exactions; but in 1818 the rajah received a considerable accession of dominion, and the town of Patum, from the hands of the British. Although small, this state is important, as it contains the principal passes from the S. into Upper Hindostan. The natives are of the Hara tribe, which has produced many celebrated men, and amongst others one of Aurungzebe's best generals.

BOONDEE, a town of Hindostan, prov. Rajpootana, cap. of the above rajahship, and residence of its sov., on the S. declivity of a long range of hills, 90 m. SE. Ajmeer, 200 m. SW. Agra; lat. $25^{\circ} 28'$ N., long. $75^{\circ} 30'$ E. It is divided into New and Old Boondee: the former is surrounded by a high stone wall, which extends up the acclivity to some fortifications which crown the hill; the houses are mostly of stone, and two stories high. The palace is half-way up the hill, and is a very striking stone edifice, supported partly by a perpendicular rock 400 ft. high, but principally by solid piers of masonry. This city is also rendered picturesque by its numerous temples, magnificent fountains, and spacious main street opening to the palace, at the lower extremity of which stands a great temple, dedicated to Krishna, with many groups in bas-relief, and other sculptures. Old Boondee is W. of the former, covers a considerable surface, and contains some fine fountains and pagodas, but is in a state of general decay. The passes N. of Boondee are strongly defended, and abound in natural beauties, in royal and religious edifices, and other works.

BOORHANPOOR (Barhampura), a town of the Deccan India, prov. Candeish, of which it was the ancient cap.; built in a plain, on the NW. bank of the Tuptee, 185 m. SSE. Oojein, and 215 m. E. Surat; lat. $21^{\circ} 19'$ N., long. $76^{\circ} 18'$ E. This is one of the largest and best built cities in the Deccan, though, as a whole, devoid of architectural beauty. Most of the houses are of brick, many three stories high, with neat façades, framed in wood, as at Oojein, and universally roofed with tiles; but the fort and palace of its ancient sovereigns, and many Mohammedan mosques, chapels, and tombs, are heaps of ruins. Some of the streets are wide, regular, and paved with stone; and there is a square of considerable extent: the finest building is a mosque, called Jumma Musjud, a pile of grey-stone, with a handsome façade, and octagonal minarets, but destitute of a cupola, the usual appendage to Mohammedan structures. The Tuptee is a clear and beautiful stream, but here of no great breadth, and easily fordable in the dry season. Boorhanpoor is supplied with water by aqueducts, which bring it a distance of 4 m., and distribute it through every street below the pavement, whence it is drawn up by leathern buckets. 500 of the best houses are occupied by Bokrahs, a Mohammedan sect, who are the great merchants in this part of Hindostan, wear the Arabian costume, and call themselves Arabs by descent. This city was conquered by the Mahrattas in 1760, since which it has progressively decayed. It was captured by the British in 1808. The grapes grown in its vicinity are said to be the best in India.

BOORO, an island of the E. Archipelago, in the so-called 4th div., between lat. 3° and 4° S. and long. 126° and 127° E., 50 m. W. Ceram; length, E. to W., 75 m., breadth 38 m. Rice, sago, a profusion of aromatic and other woods, tropical fruits, and the best cajuput oil, are found here; the interior is peopled by Horafooras, who subsist on sago and the chase. Some of the other inhabitants are Mohammedans. Chinese junks and S. Sea whalers visit it, and the Dutch have a settlement on the island.

BOOROOGIRD, a town of Persia, prov. Irak-Kermanshaw, cap. govern. in a fine and fruitful valley, 190 m. NW. Ispahan. Estimated pop. 12,000. It has a fine castle and several mosques. The town and dist. attached to it belong to the tribe of Lack, who do not wander far from the spots to which they are partial, but settle in villages, and employ themselves in the improvement of their estates.

BOOTAN, or **BHOTAN**, an indep. state of N. Hindostan, between lat. 26° 30' and 28° 30' N., and long. 88° 30' and 94° E., having N. the Himalaya, which divides it from Tibet; E. and S. Assam and Bengal; and W. the river Teesta, which separates it from Sikkim: length, E. to W., about 350 m., by from 90 to 100 in width; but its limits would greatly exceed this estimate were it described as comprising all the country immediately adjoining the Himalaya on both sides, from Cashmere to China, which is termed by the Hindoos *Bhote*, and its inhabitants *Bhotyas*. Assuming it to include the districts now referred to, its area has been estimated at about 64,500 sq. m., and its pop. at 1,500,000. The external appearance of Bootan is the very reverse of that of Tibet, which is a level table-land, whereas it is almost entirely mountainous or hilly.

Mountains.—Its N. portion, which is the S. declivity of the Himalaya, constitutes an almost impassable frontier, consisting of lofty mountains, either covered with snow, or black and destitute of all verdure excepting towards their base, where short and scanty herbage, a few bushes of holly, and occasionally a stunted pine, are all the signs of vegetation existing in this region.

About 10 m. from this boundary the aspect of the country changes, becoming, although still bold and lofty, more picturesque and smiling; the hills are cultivated to a considerable height, or covered with verdure often to their summits, having on their slopes luxuriant forests. The valleys are mere wedge-shaped intervals, or water-courses, between the hills, and their vegetation is similar to that of the temperate parts of Europe. The country continues of this character for about 50 m. from N. to S., gradually becoming less striking in its features as it approaches the *terriano*, which divides it from Bengal. This is a tract of marsh-land, 25 m. in width, and covered with jungle, being the only plain belonging to Bootan: its climate is most pestilential.

The principal river is the Tchinchien, which intersects the country N. to S., passing through the valley of Tassissudon, receiving the waters of the Patchien and Hatchien, and after a turbulent course of about 150 m., during which it forms several cataracts, and rushes over vast masses of rock, falls into the Brahmaputra, a few miles below Rangamatty, where it is called the Gadawhar. There are several rivers of less consideration, supposed tributaries of the Brahmaputra; but the violence of their course prevents the simplest form of navigation being practicable.

The primary rocks in the mountains are chiefly granite and an imperfect quartz, having the appearance of marble, but employed in the manufacture of a species of porcelain; good limestone is abundant, but not used either for agricultural or other purposes. It is conjectured that the mountain ranges contain much mineral wealth, but they remain almost wholly unexplored. Iron and copper are the only metals hitherto discovered, and the former alone is applied to any purpose by the natives.

The climate exhibits every variety, according to elevation, and summer heats and winter cold are severally felt in places within sight of each

other. In the mountainous regions it is not unhealthy, and resembles the climate of the S. of Europe, not being subjected either to the burning suns or periodical rains of Bengal. Snow prevails during a great part of the winter, except in some few districts; showers are frequent in summer, and in consequence of the exhalations arising from the numerous springs and cataracts, a certain humidity pervades the atmosphere, even at this season. Pannukka, although but a few miles distant from Tassissudon, has a climate so much milder than the latter, that it has been chosen as the winter residence of the sovereign.

The mountain forests abound with beech, ash, maple, birch, yew, pine, fir and cypress, but contain no oaks. Numerous fruits common to Europe flourish; as apples, pears, apricots, peaches, walnuts, melons, mulberries, strawberries, raspberries (the two latter fruits growing wild), oranges, and pomegranates, which are excellent. In the colder districts, the cinnamon-tree, and a species of rhubarb, are found.

The marshes of the S. abound with elephants, rhinoceroses, tigers, buffaloes, and other formidable wild animals; but, excepting in these parts, they are not abundant. Captain Turner speaks only of a kind of monkey, which inhabits its vicinity, and the yaik, or grunting ox, which is found among the mountains of the N. boundary, but descends into the lower country for pasture during the winter months. The Tangun horse, a species peculiar to Bootan, about 18 hands high, well-formed, short-bodied, clean-limbed, deep in the chest, extremely active, and well suited to mountainous countries, is an object of considerable traffic with Bengal. These have a tendency to become piebald; those of one colour amongst them, although rare, and less valued by the natives, are much more esteemed by the British merchants.

People.—In physical formation the people differ greatly from the Bengalese, being hardy, robust, strong, and occasionally, in the mountain districts, attaining a height of more than 6 ft. Their skins are smooth, and often not darker than those of the inhab. of the S. of Europe; faces broad, and cheek-bones high, from which point the face rapidly narrows downwards; the eye is small and black, with long pointed corners, looking as if extended in width by artificial means; they have scarcely any eye-lashes, beard, or whiskers. They are often greatly afflicted with goitre, especially those who live near rivers subject to inundation. Though not deficient in courage, they are peaceably inclined and inexperienced in the arts of war: the bow and arrow (in the use of which they are skillful), sword, and falchion, are their chief weapons. No military discipline whatever is maintained, and ambush is more frequently resorted to than open conflict. They dress in woollen cloth; use animal food and spirits. Tea is the usual beverage, but so prepared as to suit few palates but their own. Their dwellings seldom exceed one story in height; the palace of the rajah, at Tassissudon, consists of several, and is magnificent, as compared with the other edifices. Much ingenuity is displayed in the construction of their bridges, which are composed either of timber or chains of iron: there is one of the latter kind across the Tchinchien, at Chuka, deserving of admiration; the founder of which is unknown. Their aqueducts are formed of the trunks of trees hollowed for the purpose. Both polygamy and polyandry are in practice; marriage is not ratified by any religious form, and it frequently happens that one female becomes the joint property of several members of a family; the dead are burnt, and their ashes plunged into a river, on which occasion certain ceremonies are performed by the

Gylonga, a numerous sect of recluses, who apply themselves exclusively to administering the duties of religion. There are two annual festivals; one in the spring, called the *hooli*, consisting of different sports, in which those of all ranks, sex, and age, mix with unrestrained freedom; and an autumnal festival, called *mullam*, embracing a multitude of Hindoo allegories.

Agriculture.—In the culture of the land the natives display industry and care. Rice, wheat, barley, and a species of triangular seed bearing an affinity to the polygnum of Linnæus, are the chief agricultural products. The valley of Tassisdudon, and some of the lands skirting the river, yield two crops annually; the ground on the slopes of the hills is levelled by cutting it into shelves, to enable it to be irrigated by the mountain streams. The most laborious offices of husbandry fall to the lot of the females. Notwithstanding the climate affords great advantages for the production of culinary vegetables, the turnip is the only one cultivated with much success; cucumbers, shallots, melons, &c., are grown; but potatoes have failed, and are now totally neglected.

The trade with the surrounding countries is a monopoly in the hands of the government. Coarse woollen cloths, horses, wax, ivory, gold-dust, silver ingots, musk, the various fruits of Bootan, and Chinese manufactures, form the chief articles of export to Bengal; and the same articles, with the addition of rock-salt, leather, tobacco, paper, rice, to Tibet. An annual caravan is sent by the deb-rajah into the Bengal presid., which returns laden with indigo (composing half the cargo), English woollens, linen cloths, cottons, sandal-wood, spices, assafetida, sheet-copper, tin, gunpowder, otter-skins, horns, hides, the whole usually amounting in value to about 80,000 rupees. A small traffic with the E. division of the Rungpoor district is also maintained. A base silver coin, worth about 10d., struck in Cooch Bahar, is current throughout Bootan, where there is no mint.

Manufactures.—The principal is paper, made from the bark of a tree, from which material a kind of silk and satin is also made. Paro is the only market in Bootan, and here are manufactured idols, swords, daggers, and the barbs of arrows; the latter are dipped in a poison procured from a tree unknown to Europeans, which, however, seldom proves mortal.

Religion.—Buddhism, of the Lama sect, is the prevalent religion; but a difference of opinion exists on certain points, one sect permitting the use of food considered impure by the Brahmins. No interruption whatever, of a diplomatic or other character, is allowed to interfere during the period of the celebration of sacred rites: there are many similarities in religious customs here with those of Tibet.

Government.—The sovereign power, though vested in the hands of the dharma-rajah, who is regarded as possessing divine attributes, is exercised only by the deb-rajah, who resides at Tassisdudon. The several passes into the country are under the jurisdiction of officers called *subahs*, who usually inhabit the fortresses of their peculiar districts, except in winter, when they visit the lower country, to escape from the rigour of the season, and for the purpose of establishing their authority, which is uncertain in its extent.

The interior and S. parts of the country are divided into different domains, each controlled by a resident functionary, whose duty consists in the exaction of the gov. dues, and general administration of his distr. The most subordinate of the public officers are called *mookes*, which situation, however, affords an opportunity for considerable

preferment. The revenues of the rajah are paid mostly in articles of produce and merchandise. Tassisdudon, Wandipoor, Tamnukka, Ghassa, and Murichom, are the chief towns; but, with the exception of the first two, they are no better than small villages.

History.—Of this country, called by the ancient Brahmins Madra, no early record has been transmitted, nor was public attention much directed towards it until the deb-rajah's invasion of the neighbouring territory of Cooch Bahar, in 1772, which the British government opposed; but, through the intervention of the lama of Tibet, a peace was effected: the disputed district being awarded to the Bootanese.

It is extremely difficult, and in some parts impossible, to determine the exact boundary of the country; a regular system of encroachment on the surrounding states having been long practised by the Bootanese, who have at different periods appropriated to themselves considerable possessions belonging to Bengal and Assam. Great alarm was created in 1816 by a supposed threatened invasion of the Chinese, who had entered Nepal; and the deb-rajah was excited by his fears to declare himself amicably towards the British, in the hope of gaining assistance, if required. But a very serious dispute between Bootan and the government of Calcutta broke out in the autumn of 1864. An English envoy having been insulted, and satisfaction and redress being refused, a force composed of 8,000 men, all natives of India, except 20 British artillerymen with two guns, were sent into Bootan. They took several fortified places, but were attacked at Dewangire on the 8rd of February, 1865, and driven back to Koomrchatla, the Bengal native regiments flying in utter confusion. On the news of this disaster becoming known, the Governor General at once despatched a sufficient number of European troops, who took possession of the lost ground. The low country of Bootan at the same time was declared annexed to the British possessions in India.

BOOTON, an ial. of the E. Archipelago, 2nd division; lying off the SE. extremity of Celebes; length, N. to S., 85 m.; average breadth about 20 m.; between lat. 4° and 6° S., long. 123° E. It is high and woody, but well cultivated, yielding rice, maize, an abundance of tropical fruits, poultry, &c. The Dutch had formerly a settlement here, and sent an officer annually to destroy all the clove trees on the island.

BOPPART (an. *Baudobriga*), a town of the Prussian States, prov. Rhine on the left bank of that river, 9 m. S. Coblenz, on the railway from Cologne to Mayence. Pop. 4,402 in 1861. This is a very ancient town, its walls appearing to be built on the foundations of a fort constructed by Drusus. In the middle ages it was an imperial city, and several councils have been held in it. The houses are mostly of wood and plaster, with projecting upper stories; and the streets are narrow and ill-paved. The large convent of Mariaeburg, founded in 1123, and some similar establishments, have been converted into cotton factories. The parish church and the old church of the Carmelites are worth notice.

BORDEAUX (an. *Burdigala*), an important commercial city and sea-port of France; cap. d'ep. Gironde, in the centre of an extensive plain, on the left or W. bank of the Garonne, 55 m. SE. from its embouchure, 102 m. NNE. Bayonne, and 307 m. SW. Paris, on the railway from Paris to Madrid. Pop. 162,750 in 1861. The Garonne here describes a semicircle, along the outer side of which the city extends for about 2½ m., with a breadth of about 1 m. in its greatest diameter.

The city is divided into the old and new quarters; the former, or southern portion, which includes the ancient Roman town, contains only narrow, crooked, and dirty streets, with ill-built stone houses; while the latter, comprising the N. part of the city, has mostly risen up since 1743, when the Intendant M. de Tourny commenced his enlightened administration. It is extremely handsome, and deservedly celebrated. The wide Rue du Chapeau Rouge, which, with its continuations, divides the city into two nearly equal parts, has many elegant shops, and some noble edifices, as the Bourse, and Grand Theatre. The Allées and Cours de Tourny, the Cours du Jardin Public, the Cours d'Albret, and several other streets and squares, are remarkable for their beauty or size. The Faubourg des Chartrons, which contains the Jardin Public, was spoken of as perhaps the finest suburb in Europe, till the extension of building made it part of the city. The approach to Bordeaux by water is very striking. The river, in its narrowest part, opposite the Place Royale, is 720 yards across, with a depth of 16 ft. at low, and nearly 5 fathoms at high water; the length of the port, from one end to the other of the city, is reckoned at upwards of a league; it is capable of accommodating 1,200 ships; and such as do not exceed 500 or 600 tons may enter it at all times of the tide. The Garonne is skirted along the city by a succession of superb quays, which descend, by a gentle inclination, to the water's edge, and besides their utility, are amongst the principal ornaments of the town, being lined with handsome buildings, whose façades have an imposing effect. 'On viewing,' says Mr. Inglis, 'this magnificent crescent from any opposite point from which the eye may embrace its whole extent, one cannot hesitate in ascribing to it a decided superiority over any *coup-d'œil* presented to us either in the French or the English metropolis.' (Switzerland, &c., p. 315.) On the opposite side of the river there is the suburb of La Bastide. The communication between the city and its suburb is maintained by the famous bridge of Bordeaux. It is 532½ yards in length (or 1204 yards longer than Waterloo Bridge), by 48 ft. broad; has 17 arches, the piers being of stone, and the upper parts partly of stone and partly of brick. It was commenced in 1810, and completed in 1821, at a cost of 260,000*l*. Owing to the depth and strength of the current, it was a most laborious undertaking. The public buildings most worthy of notice are the cathedral, the churches of St. Michel, St. Croix, St. Seurin, Paul, Bruno, and others; the Bourse (Exchange), Custom House, Grand Theatre, Hall of Justice, Palais Royal, Fort de Ha, synagogue, and public baths. The cathedral is a fine, but unfinished, Gothic edifice, commenced in the 11th, and continued, by several different architects, in that and the succeeding centuries, from which circumstance, although beautiful in parts, it wants harmony and regularity. It is 413½ ft. in length; the height of its nave is 85 ft.; that arm of the cross in which its grand entrance is placed is adorned with two spires, each nearly 160 ft. in height. At a short distance from it stands the ancient belfry, formerly nearly 320 ft. high; but having been much dilapidated during the Revolution, it is now reduced to little more than 100 ft. high, and serves as a shot tower. The church of St. Michel, built in the 12th century, is in a more perfect architectural style than the cathedral; but, like other churches in Bordeaux, it is dark and gloomy. It also has an isolated belfry, which was 320 ft. high until mutilated, and in part destroyed, by a tempest

in 1768. Beneath it is a cavern in which dead bodies have been preserved for a lengthened period. The church of St. Croix is the most ancient of all, having been built before the middle of the 7th century, and restored by Charlemagne. The churches of Notre Dame, St. Paul, and the College Royal, are of much later date. The synagogue is a handsome building, erected in the time of Napoleon. There are two Protestant churches, but they present nothing worthy of remark. The Bourse is a large edifice, with a splendid staircase, and a hall in its centre, 98½ ft. in length, by 65½ ft. broad, lighted by a large glazed dome, 78½ ft. high, and adorned with a gallery supported by a double rank of arcades. In the upper part of the building are the Council Chamber, Tribunal of Commerce, and rooms used for other public purposes. The Custom House, built on the corresponding side of the Place Royale, is, externally, like the Bourse. The Grand Theatre, built in the reign of Louis XVI., at an expense of 170,000*l*, will accommodate 4,000 persons, and has a fine concert-room, a spacious hall, cafés, and other apartments. There are several other theatres, but none particularly distinguished. The Palais, or Château Royal, built in 1778, and formerly the residence of the archbishop, is an extensive and fine structure, with a large quadrilateral court in its centre. Napoleon I. made it an imperial palace. The Palais de Justice, the seat of the royal court, and civil tribunal, has a marble statue of Montesquieu. The modern town-hall is of Gothic architecture; of the ancient one, built in the 13th century, nothing at present remains but an oval tower, surmounted by a dome, flanked by two turrets, called the *Tour de l'Horloge*.

Bordeaux was for a long period fortified; but the streets planned by M. de Tourny for the most part occupy the sites of the former works: the Fort de Ha, constructed by Charles VII., is now converted into the prison: the Château Trompette, built by the same Sovereign in 1453, was demolished in 1817; and its site, which now forms the Place Louis Philippe, laid out as a promenade, and planted with trees. There are some remains of antiquity in Bordeaux: the principal is what is called the 'Palace of Gallienus,' a vast amphitheatre of brick and stone, believed to have been erected about A.D. 260, but now much dilapidated. It stands in the N. half of the city, about ¼ m. from the ancient Roman town. It appears to have been of an elliptic form, 144½ yards long, by nearly 115 yards wide, and capable of accommodating 15,000 spectators; it suffered greatly during the revolutionary phrensy in 1792 (when the Palais d'Ombrière, or Castrum Umbrarie, another Roman edifice, was also, for the most part, destroyed); but its two principal entrances, 28½ ft. high, by 19-16th ft. wide, and a part of its circumference, are still nearly perfect. Most other relics of the Roman dominion have disappeared. The Temple of *Tutelle*, supposed to have been dedicated to the tutelary divinity of the place, and to have been erected early in the first century, was 88 ft. in length on each side, and contained 24 enormous columns, 17 of which were standing towards the end of the 17th century. It was much mutilated in 1649, and totally demolished under Louis XIV., in 1677, to make room for the glacis, constructed by Vauban, round the Château Trompette. No trace is found of the Temple of Diana and Fountain of Divona; and the stream *Divitia*, now La Devisse, mentioned by Ausonius (*Clara Urbes*, xiv. B.),

Per mediumque urbis fontani fluminis alveum:
Quem pater Oceanus refuo cum impleverit æstu,
Adlabi totum spectabilis classibus æquor—

K K

instead of supporting fleets, is now arched over, and no vestiges are extant of its dock.

Bordeaux has many structures devoted to trade, arts, and manufactures. There are several building-docks, in which brigs, frigates, and even ships of the line may be constructed, but which are ordinarily employed only for commercial purposes. Ship-building is carried on extensively; the number of sailing vessels constructed in the year 1863 amounted to 45, of a total tonnage of 16,025, besides 2 steamers of 500 tons.

On the 31st of December, 1863, the number and tonnage of vessels belonging to the port of Bordeaux were as follows:—

SAILING VESSELS.				Tons
	6 of 800 tons and above, measuring			10,495
5	from 700 to 800	"	"	8,605
11	" 600 to 700	"	"	7,125
28	" 500 to 600	"	"	15,019
68	" 400 to 500	"	"	30,216
73	" 300 to 400	"	"	26,671
103	" 200 to 300	"	"	25,728
61	" 100 to 200	"	"	9,125
44	" 60 to 100	"	"	3,470
37	" 30 to 60	"	"	1,576
6	" 20 to 30	"	"	163
443 vessels, measuring				132,193

STEAMERS.			
1	280 horse-power.		
1	220		
11	850	"	tugs and river passengers' boats.
Vessels . 13 1,850			

Besides its maritime industry, Bordeaux has many other important manufactures. There are numerous brandy distilleries, sugar refineries, vinegar, glass-bottle, shot, and cordage factories, iron and steel forges, potteries, and tanneries, with manufactures of cottons, woollens, kid gloves, bonnets, corks, playing-cards, liqueurs, musical instruments, barrels, turpentine, and other drugs, soda, alum, vitriol, mineral waters and other chemical preparations; and in the neighbourhood of Bordeaux some gunpowder fabrics.

The trade of the port is considerable in the produce of these manufactures, and in grain, cattle, and timber; but the chief articles of export are the famous red wines of the Gironde and brandy. A large portion of the inhab. of the Quartier de Chartrons are wine merchants, and a great part also of that quarter is occupied with cellars, some of which are capable of containing 1,000 tons of wine. The quantity of wine exported to the united kingdom from Bordeaux has been progressively increasing, ever since the conclusion of the treaty of commerce between France and Great Britain, in 1860. Subjoined is a statement of the quantity exported in the two years 1862 and 1863 to the United Kingdom and colonies:—

Quantity exported in 1862 . . .	2,571,903 gallons.
" " 1863 . . .	3,053,112 "
Increase in 1863	481,209 "

Besides wines and brandies, which are furnished to every country with which Bordeaux has any trade, the chief exports are liqueurs, walnuts, chestnuts, dried fruits, vinegar, tartar, skins, flour, cork, and various drugs to England. Spirit of wine, tartar, molasses, and colonial produce to the N. of Europe; fruits, verdigris, and a few manufactured articles to the U. States; to Spanish America and the W. India colonies of France, French manufactures, furniture, cattle, and flour; to the S. Seas, the E. Indies, and China, all sorts of manufactures, furniture, silver, &c. Bordeaux is the chief port of Southern France for colonial

produce; it receives from America, India, and Africa, coffee, sugar, pepper, cigars, canella bark, indigo, quinquina, tea, rice, cocoa, skins, dye-woods, &c.; iron, lead, and other metals are imported, especially from England; fish, glue, and tallow from Russia; timber from the Baltic; metals, oil, liquorice, saffron, &c. from Spain; zinc and steel from Germany; cheese and stock-fish from Holland; linens from England and the two last-named countries. There arrived, in the year 1863, in the port of Bordeaux 3,381 vessels, of 508,544 tons burden, while the departures consisted of 3,374 vessels, of 521,725 tons. The number of British ships which entered the port in 1863 amounted to 411, of 120,975 tons burden, while the departures were 393, of 116,204 tons. (Report of Mr. Consul Scott on the trade of Bordeaux for the year 1863.)

The trade of Bordeaux with the interior is greatly facilitated by the three lines of railway, from Paris, from Madrid, and from Marseilles, which converge at the city, as well as by the chief water communication of the Canal du Midi (See FRANCE.)

Bordeaux possesses several charitable institutions. 'The New Hospital, erected to replace that of St. André (built in 1890), is,' says Mr. Inglis, 'upon a scale of magnificence and comfort beyond what is to be found in any other town in Europe. I dedicated the second of my days at Bordeaux to a visit to this hospital, and was equally surprised at its extent, and delighted with the admirable arrangements that pervade every part of it. There is nothing that this hospital does not contain. It includes 710 beds for sick persons, and 18 chambers for the accommodation of persons who pay for the attentions they receive. It contains baths, bakehouses, courts, an apothecary's shop, water-reservoirs, gardens, and accommodation for medical men. There are also in the hospital 84 reservoirs for water, as a provision against fire, containing 1,410 hds. I need scarcely add, that, in the cleanliness of every department, the hospital is perfect; and that in the smallest minutiae, everything is found that can contribute either to health or to comfort. The Bordeaux is justly proud of this noble institution.' (Switzerland, &c., p. 318.) There are, also, hospitals for aliens, foundlings, the aged, insane, &c., *Bureau de charité, a dépôt de mendicité*, and other similar establishments. There are two buildings near the river, each 36 yards square, devoted to public baths; their exterior is crowned with an agreeable terrace, and the interior of both is fitted up with all the various kinds of baths, medicinal and otherwise. The vineyard of the former monastery of the Carthusians is now converted into a public cemetery: there are three others in Bordeaux, two belonging to the Protestants, and one to the Jews.

Bordeaux is the seat of an archbishopric, of a royal court and court of assize, and tribunals of primary jurisdiction and of commerce. It has numerous scientific and scholastic institutions. The Museum occupies a large extent of ground, and comprises the public library, cabinet of natural history and antiques, a picture-gallery, schools of design and painting, and an observatory. The public library contains 110,000 vols., amongst which are some rare works, and several valuable MSS.; the other departments are not very rich: the picture-gallery, however, boasts of some good paintings of the French, Italian, and Flemish schools. There is a botanic garden, at which, as course of lectures, recognised by the University of France, is annually delivered; a university academy, royal academy of arts, sciences, and belles-lettres, a royal college, a faculty of theology, with

schools of navigation and medicine, a normal school, a school for deaf and dumb; an Athenæum; Linnean, philomathic, and medico-chirurgical societies, a royal society of medicine, a society of commercial emulation, &c. In the vicinity of the city is an experimental farm, and a race-course or hippodrome: the country round is chiefly appropriated to the culture of the vines; but, from its flatness, is devoid of much picturesque beauty. Since 1825, this city has been lighted with gas. The inhabitants are generally opulent, and live in a style superior to that common in any other French city, Paris excepted. The jurisdiction of the royal court of Bordeaux extends over the déps. Gironde, Charente, and Dordogne: its archbishopric, which originated in the third century, has for suffragans the bishops of Agen, Angoulême, Poitiers, Périgueux, La Rochelle, and Luçon.

History.—The epoch of the foundation of Bordeaux is unknown. It was the capital of the *Bituriges Vivisci*, a Celtic nation of Gaul, and a celebrated commercial city in the time of Strabo. It was taken by the Romans in the reign of Augustus; and Hadrian made it the metropolis of the second Aquitaine. In the reign of Gallienus, Tetricus, the governor of this prov., one of the so-called thirty tyrants, assumed the purple here, and it is most probable (Hugo) that it was he who built the celebrated amphitheatre. In 417 the Visigoths, in 509 Clovis, and in 729 the Saracens, possessed themselves of it; under Charlemagne, it was governed by a count of its own; in the ninth century it was ruined by the Normans. It subsequently became the cap. of Guienne, and fell with the rest of that duchy under the kings of England, to whom it almost uninterruptedly belonged till the English were finally expelled from France in the reign of Henry VI. Generally speaking, this city has in later times been attached to the interests of the Bourbon family; but in 1830, on the publication of the *ordonnances* of Charles X., the standard of revolt was hoisted here before news arrived of the same occurrence in Paris. Bordeaux and its vicinity have, in all ages, produced celebrated men: amongst others, Montesquieu and Montaigne; the Latin poet Ausonius, in the fourth century; Chaptal de Buch, Edward the Black Prince, Jay, Deeze, &c.; Pope Clement V., and Richard II. of England, were also natives of this city.

BORGIA, a town of Southern Italy, prov. Catanzaro, cap. cant., in a plain 6 m. W. Catanzaro. Pop. 4,830 in 1859. Having been almost totally destroyed by an earthquake in 1783, it was rebuilt by Ferdinand IV., King of Naples. Its environs produce highly-esteemed wines, and large quantities of silk-worms.

BORGO, or **BORGA**, a sea-port town of Russia in Europe, princip. Finland, gov. Nyland, at the bottom of a bay of the Gulf of Finland, 35 m. ENE. Helsingfors; lat. 60° 22' N., long. 25° 45' E. Pop. 2,789 in 1858. It is the seat of a bishopric, and has a gymnasium. The harbour is indifferent, and it has but little trade. It was here that the emperor Alexander I. received the oath of fidelity tendered by the states of the principality.

BORGO-MANERO, a town of Northern Italy, prov. Novara, cap. arrond., on the Gogna, 18 m. NNW. Novara. Pop. 7,895 in 1862. It is surrounded by walls, and is well built; has a fine square, several convents, a hospital, and a *mont-de-piété*.

BORGO-SAN-DONINO, a town of Northern Italy, in the former duchy of Parma, cap. distr., on the Stirone, 22 m. SE. Placentia. Pop. 9,992

in 1862. It is surrounded by walls, has a palace, a cathedral, four parish churches, a college, a seminary, a workhouse, and some fabrics of silk and linen. It owes its name to St. Donino, who was beheaded here in 804.

Borgo is prefixed to the name of various small towns in different parts of Italy.

BORISSOF, a town of Russia in Europe, gov. Minsk, on the left bank of the Bérézina, 45 m. NE. Minsk. Pop. 5,825 in 1858. Borissof has acquired celebrity from the disastrous passage of the Bérézina, effected near it, by the remains of the French army under Napoleon, on its retreat from Moscow, on the 16th and 17th Nov., 1812.

BORISSOGLEBSK, a town of European Russia, gov. Jaroslaf, on the right bank of the Wolga, opposite to Romanof. Pop. 6,600 in 1858. The town is picturesquely situated on a hill declining towards the Wolga, and surrounded with dense forests. It is also the name of another Russian town, gov. Tambof, on the left bank of the Vorona.

BORKHUM, a small island in the North Sea, belonging to Hanover, off the mouth of the Ems, about 9 m. from the nearest point of the mainland. Pop. 485 in 1861. The island is included in the bailiwick of Pewsum, and is so low that at high water it is divided by the sea into two pretty equal parts. The inhabitants are mostly seamen, several of them being employed as harpooners in the ships engaged in the northern whale-fishery. They also raise corn, fruits, and cattle. It is an established custom, that a third part of all articles saved from shipwreck goes to the individual on whose land the disaster took place. Borkhum is a par., with a church and a school. The spire of the church serves also as a lighthouse. The lantern, which is furnished with reflecting lamps, is 150 ft. above the level of the sea, and is in lat. 53° 35' 20" N., long. 6° 40' 26" E. (Coulier, sur les Phares, 2nd edit. p. 61.)

BORMIO, a town of Northern Italy, prov. Sondrio, at the confluence of the Predosso with the Adda, 30 m. NE. Sondrio. Pop. 1,684 in 1862. A large cattle fair is annually held here, from the 22nd to the 25th of October; and in its vicinity, on the declivity of Mount Braglio, are celebrated mineral springs, much frequented by patients from the Valteline and the Grisons. This town was formerly much more considerable; but being sacked, burnt, and its inhab. put to the sword, in 1621, it has never recovered from the disaster.

BORNEO (called by the natives *Tauna Klemantan*), the largest island in the world, Australia being reckoned a continent, occupying nearly the centre of the E. Archipelago; between lat. 4° 10' S., and 7° N., and long. 109° and 119° 20' E.; having N. and W. the China Sea; E. the Celebes Sea and Straits of Macassar; and S. the Sea of Java; form compact; length, NE. to SW., 750 m., breadth 350 m.; area 260,000 sq. m. Estimated pop. 3,000,000. The coasts are less indented by deep bays, or creeks, than those of most islands of the Archip.; notwithstanding which, it has several fine and spacious harbours. The shores consist usually of mud banks, with numbers of minute and rocky islets around them; the land for several miles towards the interior continuing marshy and alluvial, interspersed with gentle acclivities, covered with underwood. In the maps a chain of mountains, running NE. to SW., were long represented as passing through the centre of the island; but Mr. Earl, who visited the interior in 1834, saw no traces of these, nor does he believe in their existence. Excepting the volcanic chain of mountains passing through Java, and the S.

parts of the archipelago, to the E., all the hill ranges of those islands run NW. and SE., and seem to be continuations of the great ranges which run in that direction through the ultra-Gangetic peninsula, and of which the rocky island Pulo Condor and the Natunas seem to be connecting links. They are all of the same geological character—granitic; and in Borneo probably terminate in a range which lines the SE. shore for 90 m., called the Hundred Mountains. There are many isolated hills in Borneo, and a range stretching along the NW. coast, of about 3,000 ft. in height. (See Earl's Map, &c.) There are numerous and extensive plains, especially in the N.; but the most important yet known to Europeans is that of Montradok, near the W. coast. There are said to be upwards of 100 rivers, many being navigable, and some of considerable size. The principal is the Banjarmassin, which has a S. course nearly throughout the whole island, and falls into the sea not far from the town of the same name on the S. coast. The Passir, Coti, and many others, are met with on the E. coast; on the W. the Sambas, Pontiana, Landak, Sucadan, are the principal; the first is 1 m. wide at its mouth, and much more a little farther inland. It has been ascended in small vessels by the Dutch for 80 m., and beyond that is said to be available for canoes to within two days' walk of Borneo Proper. The larger rivers, which come from the centre of the island, appear not to have their origin in any mountainous region, as they rise no higher during the rainy season: they seldom contain any sandbanks or rapids.

Nothing satisfactory has been communicated respecting the geology of Borneo, except the granitic character of its primary mountains; its soil, in the neighbourhood of the European settlements, vies in richness with that of any other island of the Archip. In the NE. it is said to be superior to all other parts. Borneo is rich in valuable minerals: it is the only island of the Archip. where diamonds are found; the chief of which are from Landak, in the Chinese territory: one in the rough state weighing 867 carats, and worth, according to the common but absurd method of estimating such articles, 269,378*l.*, has been found there, and was, in 1815, the property of a petty chief. Diamonds are most numerous in the alluvial soils, in which gold is also found; and are of good water, though usually small. The plain of Montradok is said to have formerly yielded 88,362 oz. annually of pure metal (Hamilton); the soil in which it is found is stiff, and the veins lie from 8 to 15 ft. below the surface. It is met with chiefly in small particles, nearly as fine as sand, although sometimes in irregular pieces of the size of a sixpence. There are inexhaustible mines of ore of antimony of very superior quality at Serawak; 1,400 tons of which, at 16*s.* to 20*s.* per ton, are annually exported to Singapore; tin is plentiful in some parts, and a little iron is procured from the interior.

Climate.—The climate of the N. is similar to that of Ceylon, and not subject to the hot land winds that prevail on the coast of Coromandel, the W. coast has no rainy season in particular, but is refreshed by showers all the year round. Europeans have had but little intercourse with the eastern parts, and little respecting them is known.

Borneo is generally very fertile; but, except in Borneo Proper, the grain produced is not sufficient for home consumption. Timber is often very large; but not generally of the kinds suited for ship-building. No teak has been yet discovered: mangrove and rattans are plentiful on the banks

of the rivers: iron-wood, ebony, camphor, dammer, and *tankamem* trees (from the latter of which wood-oil is obtained), cocoa-palm, betel, cinnamon, sago, &c., are amongst the principal trees. The camphor-tree grows to 15 or 16 ft. in circ., and proportionally high: it is cut down, split into pieces, and the produce (which is probably the best) found in the fissures: none of either the Borneo or Sumatra camphor is imported into England, which is supplied with that article from China only. Rice is excellent; but the Dutch are very jealous of its exportation, except through themselves. Maize and the sugar-cane are cultivated, as well as the plantain and many other tropical fruits.

Animals.—The elephant, rhinoceros, and leopard, are confined to the NE. corner of the isl.; the ox and wild hog are natives of the forests; and the jungles furnish an endless variety of the ape and monkey tribes; amongst which are the orang-outang, and a species of baboon, thought by Mr. Earl to be hitherto undescribed, 3 ft. in height, tailless, with short, glossy, brown hair, and an aquiline nose projecting $\frac{1}{4}$ in. from the face. The tapir, numbers of deer, and small bears, no larger than badgers, but with shaggy hair, inhabit Borneo. The Sooloo Sea is much frequented by English whalers for the spermaceti whale. The seas abound with turtle, and plenty of fish, oysters, and other testacea.

People.—The interior and part of the NW. coast are peopled by Dyaks, and by a race with woolly hair, like the Papuan negroes; the W. coast by Malays, Chinese, and Dutch colonists; the NW. by half-caste descendants of the Moors of W. Hindostan; the N. by Anamese; NE. by Suluks; E. and S. coasts by Bugis, of Celebes. Besides these, three tribes live in small craft, in a wandering manner, about the shores; viz., the Lanuna, from Magindanao; the Orang-Badju, and Orang-Tidong; source unknown.

The Dyaks (Orang Benua), a savage race, believed to be the aborigines, are scattered all over the island in different small tribes. They are of a middle size, and, except when cramped up by being constantly in a canoe, are invariably straight-limbed and well-formed, muscular, though inferior to the Chinese in ability to carry burdens; feet short and broad; toes turned rather inwards; cheek-bones high; forehead broad and flat; eyes rather long, and the outer higher than the inner angle; faces prominent, with a pleasant expression, and more like that of the Anamese than other Asiatic nations; hair straight and black; no beard. The women are interesting, often good-looking, and sometimes even fair; many are married to Chinese, and make, it is said, good wives and mothers. Their manners are mild and prepossessing, but as they dread the Malays, from whom they have suffered formerly, they commonly avoid strangers.

In the NE., and near Banjarmassin, their condition is the most ameliorated. At the latter place, and on the S. coast, they are said to possess a written character. Rice is their chief food, with pork, fish, deer, and other wild animals, which they shoot by means of arrows blown through a tube. This is their general weapon, but they sometimes use crooked bows and arrows, the latter of which are dipped in poison. They spend much time in shallow canoes, about 10 ft. long, and made by hollowing out a single tree; but on shore inhabit thatched bamboo houses, elevated on posts, and entered by a ladder, which is always drawn up at night: these habitations are often collected in small villages, and defended by stockades. The men wear but little clothing; the

women much more, and are bashful and modest; both sexes love finery, especially beads and feathers. Tattooing is in use among some of the tribes.

Upon the banks of the larger rivers many tribes often unite together, under the rule of one stronger than the rest; but in the forests they keep separate, and speak dialects so different as to be often unintelligible to each other. The more civilised have adopted Mohammedanism; others less civilised believe in a Supreme Being and a future state, but suppose that, in the latter, the owner of a human head will have the former wearer of it as his slave, a belief which has naturally led to a widely-extended system of human sacrifice. No one can marry without the head of some one having been first obtained by himself or his friends; and at the funerals of persons of consequence, or treaties of peace between chiefs, slaves or prisoners are decapitated to obtain these trophies: the heads are dried and hung up in the houses; and piratical expeditions are often undertaken with no other object than to obtain them. Some Dyaks are occupied in washing gold, and dispose of the gold-dust to the Malays for red and blue cotton cloths, beads, brass wire, salt, and other necessities of life, and tobacco, of which they are extravagantly fond. To avoid more intercourse than necessary with the Malays, they oblige them always to dispose of their merchandise at the nearest Dyak town. Next to human heads, which appear to them the most valuable of all articles, China jars are valued, and from some superstitious motives are so highly prized that they have been known to fetch 200*l.* or more. A curious circumstance, stated by Mr. Earl, is, that if any one drink the smallest quantity of the blood of a Bornee in a cup of water, he, by doing so, binds him by ties closer than those of consanguinity. The Lanuns are a piratical people, who infest the NW. coast for 300 m., and cruise in other parts of the Archipelago, plundering villages, and often carrying off their whole population into slavery. Sometimes the Dyaks join with them in these predatory expeditions, and bring away the iron and human heads, while the Lanuns appropriate the rest of the spoil. The Orang-Badju are a kind of sea gipsies, in person like the Malays; living at the mouths of most rivers on the E. border, in families of about a dozen or fifteen, in boats of from eight to ten tons each, covered, when in harbour, with a roof of matting. They are employed chiefly in fishing, taking tripang, and making salt from burnt seaweed. They are generally Mohammedans, but by no means rigid in their tenets. The Orang-Tidong live to the N. of the latter, and cruise among the Philippines and Sooloo Isles, where they dispose of sago, on which they chiefly subsist. They are a hardy race, and are said to be occasionally cannibals.

The Dutch have two small stations on the W. coast, Sambas and Pontiana, about 90 m. apart. The town of Sambas is meanly built, and contains no habitation of stone, or other substantial material: the houses of the government offices are low, wooden, thatched buildings; the huts of the natives are chiefly raised on posts, ascended by ladders, but many are built on floats on the river, as in Siam. The Chinese *campung* is the only street; the fort is a mere embankment, surrounded by a stockade of poles, and mounted with a few nine-pounders; it contains the barracks, with a garrison of forty men, half of whom are Europeans. Before the Dutch settled here, the place was a nest of pirates, destroyed by the British in 1812; the climate is not unhealthy, though the coast is covered with swamps and jungle. Sambas has the

better river, but Pontiana is the better town. Between the two are the Chinese settlements of Montadok and Landak. The gold mines near the former place are generally worked by companies of merchants clubbing together. Spades and mattocks are the only mining instruments in use. The ore is brought up in baskets, then washed (for the Chinese have no other method of treating it), and the gold-dust made into little packets, each weighing two Spanish dollars. About 3,800 oz. troy a year are sent to Singapore, which may be about one-tenth of the present produce of the island. The Chinese appear to be of a class like the lowest at Canton. Previously to the Dutch settlement here in 1823, 3,000 of them arrived annually as settlers; but emigration has now ceased, owing to the treatment they have received from the Dutch. In 1834, the Chinese expressed a great desire to trade with the British at Singapore, but the Dutch interdicted all communication between them and foreign nations, except through the medium of Sambas and Pontiana; and, being in possession of the west coast, they were enabled to prevent it. The north-east coast, however, soon rose into a far more flourishing condition, chiefly through the exertions of Sir James Brooke, who established himself as ruler here, under the title of Rajah of Sarawak. The W. coast was ceded to the Dutch by the King of Bantam in 1780; but the cession, for some time afterwards, was resisted by the Sultan of Succadan. In 1823, the Dutch settled at Pontiana, and purchased the monopoly of some diamond mines from the Malay sultan. Finding these unprofitable, they endeavoured next to take forcible possession of the Chinese mines, but being repulsed, they blockaded the Chinese between their two settlements, obliging them to trade by their ports, and guarding the coast by several vessels. The Dutch revenues are chiefly derived from monopolies of salt and opium, the former of which is imported from Java and other colonies in vessels chartered by government, and sold at seven times the import price, the interior being entirely dependent on the coast for its supply. Other resources are from capitation taxes on the Chinese, and imposts on their entering or leaving the Dutch settlement. The pop. of the Chinese and Dutch territories are estimated as follows:—

Chinese	150,000
Malays	50,000
Bugis	10,000
Arabs	400
Javanese and Amboynese soldiers	150
Dutch	80
Dyaks	250,000
Total	480,680

Exports.—The principal exports of the W. coast are gold, diamonds, antimony, camphor, bees' wax, deer's horns, dammer, ebony, wood oil, rattans, pepper, bezoar-stones, and iron, to Java, for the manufacture of *krises*. The iron of the interior is either exceedingly good, or the Dyaks are able to temper it astonishingly well; for their steel scimitars are capable of cutting through an iron nail or wire without difficulty. The total exports from Borneo to the United Kingdom, in the year 1863, were of the value of 45,555*l.* They included 814 tons of ore of antimony, value 3,454*l.*; 1,854 cwts. of gutta-percha, value 20,765*l.*; 21,065 cwts. of sago, value 15,588*l.*; and 1,218 loads of hehn wood, value 5,032*l.* The exports from Borneo to the United Kingdom quadrupled from 1859 to 1863, having been but of the value of 11,218*l.* in the first-named year.

BORNEO PROPER. The state next in importance to the colonies is Borneo Proper, a Malay sovereignty in the NW., probably the most ancient

of all in the island, and from which the latter has derived its name: it is bounded N.E. by the Sooloo, and S.W. by the Dutch territory, and extends from 100 to 150 m. inland. The Malays here are distinguished for their haughtiness and indolence; and the sultan, who enjoys a high veneration, maintains more state and dignity than most Malay princes. The chief town has been much reduced by piracy and intestine commotion, which have driven away foreign settlers: it is on a river, and in appearance like other Malay towns, but not so large as either of the Dutch settlements: the inhabitants are chiefly Mohammedans. The exports are camphor, sea-slug, tortoise-shell, birds' nests, clove-bark, pepper, gold-dust, sandalwood, and rattans. There is much fine timber on the banks of the rivers. There was formerly an extensive trade between Borneo Proper and China, as well as some commerce with the English in piece-goods. Since the establishment of the Singapore colony the British trade has recommenced. The Malays are not destitute of some arts, among which is that of casting cannon, in which they are very skillful.

Pappal, Malluda, Mangedara, Paitan, and Tirun, in the N.E., are mostly Suluk settlements. The country here abounds in forests of lofty trees; extensive plains, covered with herds of large cattle, from breeds introduced by the Spaniards two centuries ago; many rivers, and much mineral wealth. Gold and diamonds are collected with little trouble; tin-ore is sometimes picked up on the surface. Sago, rice, betel-nut, cocoa-nut oil, camphor, wax, a little pepper and cinnamon, pearls, rattans, clove-bark, and grain, in Malluda; birds' nests, lacka-wood, and tortoiseshell, in Mangedara; timber, limestone, eaglewood, and sea-slug, in Paitan, are the chief products. Tirun yields more birds' nests than any other region of the E.; its coast is generally a low swamp overgrown with mangroves; its rivers are numerous, large, and often navigable; its interior is covered with sago-trees, which form the chief subsistence of the people, and yields besides, canes, rattans, wax, honey, bezoar, gold, and, it is said, saltpetre. Many Anamese have settled on the N.E. Coast; emigration from Cochin China, in consequence of national disturbances, having prevailed lately to a great extent. Voyages hence, to and from Anam, may be made at any time of the year.

The chief state on the E. coast is that of Coti, or Coti-Lama, belonging to Bugis, from Celebes. Coti town stands 50 m. up the river of that name, the banks of which are inhabited by nearly 800,000 people. It is the chief place on this coast: its people are commercial, and many annually visit Singapore in their *prahus* or trading-vessels. Passir stands on a large river a little S. of the former: it is a den of pirates. Banjarmassin, on the banks of the river of that name, is surrounded by a territory producing rattans of the best description in abundance, as well as gold, diamonds, and pepper. The pop. are mostly Bugis, who occupy nearly every river and creek on the E. and S. coasts. They have had some trade with Singapore, but which is discontinued by the Dutch authorities; all the S. coast being claimed by the latter, who, in 1747, established a factory at Banjarmasin. On this coast there exist the remains of temples, images, and other relics of a more civilised people formerly inhabiting it; but no detailed history of these has been given. (Earl's Eastern Seas, in 1832-3-4, pp. 252-342; Leyden's Sketch of Borneo; Crawford's Ind. Archipelago; Private Letters of Sir James Brooke, 1853; Annual Statement of Trade and Navigation for 1863.)

BORNHOLM, an island belonging to Denmark, in the Baltic, about 24 m. E. by S. from the nearest point of Sweden, and 90 E. from Zealand. It is of a rhomboidal shape, being about 20 m. in length by 14 in breadth. Pop. 28,900 in 1860. Bornholm differs considerably from the other Danish islands: it rises high above the level of the sea. Its shores are formed for the most part of steep lofty rocks, surrounded by reefs, which render their approach not a little dangerous. It is well supplied with freestone, which is largely exported to Copenhagen and other places; and with limestone, blue marble, various species of clay, ochres, and coal. The clay is suitable for the making of coarse and fine pottery, and is used in the china-factory at Copenhagen. Climate drier and more salubrious than that of Zealand. The centre of the island is occupied by an extensive heath; but elsewhere the soil is moderately fertile, producing all sorts of grain, but especially oats, with flax and hemp. Cattle inferior to those of the other Danish islands, but the horses are strong and active. Timber is scarce; large trees being, however, frequently found in a state of perfect preservation imbedded in moss. There are a great many rivulets well stocked with fish, which are also very abundant round the coast. Exclusive of agriculture and fishing, brewing and distillation, tile and brick-making, the manufacture of coarse and fine earthenware and of clocks are carried on to a considerable extent. An ingenious native of the island having accidentally taken to pieces a wooden clock imported from abroad, took it for a model, and set about making another. His example was followed by others; and such was their success, that wooden clocks soon began, and still continue, to be a principal article of export. Linens, spun and prepared in the houses of the peasantry, are also exported. Coffee, sugar, tobacco, and spices are the principal articles of import. Roenne, the capital, and the residence of the governor, is situated at its S.W. angle. It is defended by batteries, has a considerable trade, and a number of vessels and boats engaged in the fishing; but its harbour is shallow, having only 6 or 7 ft. water. Nexa, on the S.E. shore, is famous for its beer. A lighthouse, having the lantern elevated 272 ft. above the level of the sea, has been erected on Cape Hammersen, the most N. point in this island. The feudal system never obtained any footing in Bornholm. Persons accused of political offences used to be banished thither, but this has now ceased.

BORNOL, a kingdom of Central Africa, in from 10° to 16° N. lat., and from 12° to 18° E. long.; it is bounded on the N. by Kanem and the S.E. corner of the desert; on the E. by Begharmi; on the S. by Mandara; and on the W. by various small tribes extending to Houssa and the Fellata country. Bornol appears to have been formerly more extensive, both in lat. and long.; at present it may, perhaps, be about 400 m. in length, from E. to W., the same in extreme width, from N. to S., and its area is probably not less than 120,000 sq. m., of which, however, more than 20,000 are covered by the waters of Lake Tchad. (Denham and Clapperton, p. 314; Lucas, Afric. Assoc. i. 131.) The surface of Bornol is an immense plain, the greater portion of which is subject to annual overflow, from which circumstance, joined to the great heat of the climate, the soil has every capability of abundant production; owing, however, partly to the want of industry in the people, and partly to the state of warfare in which the internal countries of Africa seem constantly to live, little advantage is taken of this favourable state of things, and the inhabitants are not much superior

as agriculturists to other negroes. Clapperton (Journey from Konka to Sokkato, p. 19) found the natives of Houssa raising a second crop of wheat, by irrigation; but such instances, while they prove the natural fertility of the land, are extremely rare in Bornou. The principal rivers are the Shary and the Yeou; the former apparently rising in the mountains of Mandara, the latter in those of Houssa. The smaller streams are very numerous, but all are received into Lake Tchad.

The climate of Bornou is one of very great but not uniform heat. In summer, that is from March to June, the thermometer stands at 105° to 107° at noon, and even at night is rarely lower than 100°, except before sunrise, when it sinks to 86° or 88°. The winter temperature is, however, lower than the lat. would warrant the expectation of—rarely higher than 74° or 75°: it frequently falls in a morning as low as 58° or 60°. The NW. wind is cold, the S. and SE. hot and suffocating; which, considering that the first blows over the Sahara, and the others over the high mountains of Kong, is a remarkable fact, which seems to require explanation. The seasons may be divided into *wet* and *dry*, but the first can scarcely be denominated *rainy*, in a tropical sense. About April or May, indeed, a short period, varying from three to nine days, is marked by violent tempests, rain, thunder, lightning, and wind; but the remainder of this wet period, extending to October, by no means interferes with outdoor labour, except in June, when there is another burst of falling weather, attended with a most oppressively sultry atmosphere. At this time it is that the lakes and rivers overflow their banks, flooding the land in their neighbourhood for many miles. The dry and cold season usually commences in October. (Denham, pp. 181-225, 314; Lucas, p. 181.)

In a country devoid of mountains there are, of course, no minerals. Iron is procured from the neighbouring state of Mandara, in the hills of which it is very abundant, and gold-dust is a principal article in Bornouese trade; but whether the last be brought down by the rivers, or procured from a distance, does not appear. (Denham, pp. 146, 317; Lucas p. 155.) Trees are extremely scarce throughout the country, except here and there upon the banks of rivers; though the neighbouring states of Kanem, Mandara, Houssa, &c. appear to be well-wooded. The soil, which is chiefly alluvial, is highly productive, but its productions are by no means varied, consisting chiefly of millet, barley, beans, Indian-corn, cotton, and indigo. The flooded lands on the shores of Lake Tchad are peculiarly well adapted for the growth of rice, but none is cultivated; and there is no tropical country *nor desert* so destitute of fruits and edible roots. (Lucas, p. 184; Denham, pp. 50, 102, 316, &c.; Clapperton, p. 6, 15, &c.)

The wild animals of Tropical Africa are all common in Bornou; and the ferocious kinds, lions, panthers, and jackals, which in the wet season approach the walls of the towns, are particularly dangerous. The buffalo, giraffe, elephant, hippopotamus, and crocodile are animals of chase; the flesh of all of them is eaten, and that of the last three accounted a great delicacy. The civet-cat is common, and the animal itself, as well as its secretion, is an important article of trade. Of domestic animals the number is immense: cattle and horses are of fine breeds, and plentiful; camels are rare, and sheep have a hairy instead of a woolly covering. Pelicans, spoonbills, cranes, snipes, ducks, geese, and, in short, almost every species of waterfowl, are abundant in the extensive marshes: the ostrich traverses the plains, and partridges,

grouse, guineafowl, and other game are also very numerous—as are the domestic fowls, which constitute the cheapest kind of animal food that can be purchased. Reptiles are numerous, consisting, besides crocodiles, of scorpions, centipedes, enormous toads, and many varieties of serpents; one of which, measuring 14 or 16 ft. in length, though said to be harmless, is probably of the boa or python species. In such a climate insect life is naturally abundant; bees are so numerous, that Lucas (p. 138) affirms the wax is often thrown away, as an article of no value in the market; and Denham remarks (p. 320) that the honey is only partially collected. The curse of tropical countries, the locust, is a frequent visitor; and, though a favourite article of food, is regarded with dread, since desolation always follows in its train. The rivers and lakes abound in fish, of many different species, most of them peculiar. (Lucas, p. 187; Denham, pp. 229, 284, 319, 321, &c.)

The inhabitants of Bornou consist of two classes, —the Shouas, descendants of Arab settlers from the N.; and Kanowry, or Kanuri, as the native race is called, who are true negroes. The former are the dominant people; they have fine, open, aquiline countenances, large eyes, a light copper complexion, and bear a strong personal resemblance to the best specimens of English gypsies. They are divided into tribes, and still bear the names of some of the most powerful Bedouin hordes. Their language is Arabic, and to them is owing the introduction of the arts of writing and reading. They are shrewd, active, and courageous, but these are almost the only good traits in their character. Deceitful, arrogant, cunning, and dishonest, their superior attainments are used by them only as a means to rob and oppress their black neighbours. These last present, in their physical appearance, all the usual negro peculiarities—flat noses, large mouths, and inexpressive countenances. They are peaceable and orderly, but destitute of energy, and appear to regard the Shouas as a superior race of beings. At least ten different languages or dialects are spoken in Bornou. No estimate can be made of the population of this kingdom; but as towns possessing 30,000 inhabitants are met with, and markets are said to be sometimes attended by 80,000 or 100,000 persons, and the Shouah population alone can raise an army of 15,000 men, the number of inhabitants must be very considerable. (Denham, pp. 79, 80, 329, &c.) The religion of the court is Mahomedanism; but no disabilities appear to attend the profession of feticism, which is the faith of the bulk of the negroes. The government is absolute, and till lately was elective. The laws are arbitrary, and punishments summary, but usually administered with justice; and there is a kind of insolvent act, which relieves a man from his debts on proof of his poverty, leaving any future property he may acquire at the mercy of his creditor, without further process. In other respects the Bornouese resemble the negroes generally; their arts are few, and apparently introduced, in most cases, by the Arabs. But the Arabs also introduced the slave-trade, which was unknown before their arrival, and is said to be reluctantly submitted to. The Moors of Barbary, however, prefer slaves to anything else; and as Bornou is dependent upon them for all the comforts and many of the necessities of life, the slave-trade is carried on to a great extent. It is said that the natives are very anxious for a direct trade with England; but considering that their country is situated full 600 m. from the coast, and in a climate destructive to Europeans, we confess we are not of the number of those who entertain a

sanguine expectation that any such trade will ever be carried on to any extent or to any profit. (Denham, pp. 321-225, *et pass.*; Lucas, pp. 146-159, &c.) The name Bornou is Arabic. It is literally *Barr-Noa*, 'the Land of Noah,' the Arabs believing that the mountains in its neighbourhood received the ark after the deluge, and that the patriarch first established himself in its extensive plains. (Lucas, p. 181.) The negro name appears to be Kanuri. (Dr. Barth, in *Journal of the Royal Geographical Society*, vol. xxx, 1860.)

BORODINO, a village of Russia in Europe, gov. Moscow on the Kologa, 10 m. W. Mojaisk. This village will be for ever memorable, from its being the scene of one of the most sanguinary conflicts that has taken place in modern times. On the 7th Sept. 1812, the French army, under Napoleon, in its advance upon Moscow, attacked at this point the entrenchments of the grand Russian army, 120,000 strong, under Kutousoff. The Russians made a desperate resistance, but in the end their position was carried. The slaughter was immense: the Russians having lost above 40,000 men, killed and wounded, and the French nearly 30,000. Few prisoners were made on either side.

BOROFISK, or **BOROWSK**, a town of Russia in Europe, gov. Kalouga, cap. distr., on the Prova, 55 m. SW. Moscow; lat. 55° 10' 30" N., long. 36° 32' 15" E. Pop. 9,160 in 1858. It is an old town, celebrated in Russian history for its defence by Prince Volkonski, in 1610, against the pretender Dimitri. It has 4 churches, a manufacture of sailcloth, and its environs produce excellent onions and garlic. At a short distance is the convent Pesnoutief-Barofski, founded in 1444, containing 5 churches and a considerable treasure.

BOROUGHBRIDGE, a bor., market-town, and township of England, W. R. co. York, Claro wapentake, par. Aldborough, on the S. bank of the Ure, 17 m. SE. York, on a branch-line of the York and Newcastle railway. Pop. 909 in 1861. The town has some good houses, but is decaying; its former importance, that of being on the post-road from London and York to Edinburgh, having been lost by the introduction of railways. The town enjoyed the privilege of sending 2 mem. to the H. of C. from 1553 down to the passing of the Reform Act, by which it was disfranchised. It has several fairs; of these the most important is held in June, for the sale of hardware. Many remains of British and Roman antiquities are found in this town and its immediate vicinity. Of these, the most celebrated are the obelisks, called the Arrows, about $\frac{1}{2}$ m. S. from the town. A beautiful tessellated pavement was discovered in 1831, a little to the W. of the town. At this town, on the 16th of March 1822, the army of the rebel barons, under the Earl of Lancaster, was defeated by the troops of Edward II., in an attempt to cross the river; and their leader, being taken prisoner, was immediately beheaded.

BOROVITCHI, a town of Russia in Europe, gov. Novgorod, cap. distr., on the Msta, 100 m. ESE. Novgorod; lat. 58° 16' N., long. 33° 50' E. Pop. 8,727 in 1858. The town has 4 churches, a convent, and a good deal of trade. In the neighbourhood are cataracts, that interrupt the course of the river; but the obstacles to its navigation, thence arising, have been successfully obviated by works undertaken for that purpose.

BORROMEAN ISLANDS, a group of small islands in the Lago Maggiore, Northern Italy, in the former kingdom of Sardinia.

BORROWSTONNESS, or **BO'NESS**, a burgh of barony, and seaport of Scotland, co. Linlithgow, on the S. side of the Frith of Forth, 17 m. W. by

N. Edinburgh. Pop. of burgh, including Corbiehall, 3,814 in 1861, of whom 1,889 males and 1,925 females. Borrowstonness is one of the oldest Scottish seaport towns, and its name often occurs in history. The harbour is safe and commodious; but the revenue which it yields is insufficient to keep it in repair, even though an impost of 2*d.* (Scotch) has been levied for the purpose for nearly a century (17 Geo. II.) on every Scotch pint of ale or beer brought into the town. Bo'ness carries on shipbuilding to a small extent, and has some little trade with the Baltic. It engages pretty extensively in the herring-fishery, and has not unfrequently of late years sent one, two, or more vessels to the N. whale-fishery. The town is the seat of the most extensive saltworks on the Frith of Forth, and it exports about 30,000 bushels of salt a year. Here are two distilleries, an earthenware manufactory, and vitriol and soap-works. Productive collieries abound in the immediate neighbourhood, and have been wrought for centuries. The mines extend nearly a mile below the bed of the Frith, so as almost to meet those of Culross on the opposite side, which run in a S. direction to the distance of 2 m. Near Bo'ness is Kinnell House, a seat of the Duke of Hamilton, and long the residence of Dugald Stewart.

BOSA, a seaport town on the W. coast of the island of Sardinia, prov. Cagliari, div. Sassari, near the mouth of the Terno: immediately opposite to the latter is the islet of Bosa, lat. 40° 16' 40" N., long. 8° 25' 31" E., between which and the shore small vessels lie in tolerable security. Pop. 6,234 in 1862. The town is beautifully situated in a fine valley between two hills, is tolerably clean, and has several paved streets; but in summer it is ill-supplied with water, and is then also very unhealthy. It is a bishop's see; has 9 churches, a convent of Capuchins and one of Carmelites, with a seminary for the study of philosophy and theology. On a hill immediately above the town are the remains of a castle or acropolis, where the principal families used formerly to reside. The natives are very active, carrying their produce all over the island; and most part also of the travelling pedlars belong to the town.

BOSCO-TRE-CASE, a village of Southern Italy, prov. Naples, at the foot of Vesuvius, 12 m. ESE. Naples. Pop. 9,448 in 1862. It is one of four villages situated at a little distance from each other, comprised under the general term *Bosco*; has several churches and convents, a royal manufactory of arms, a powdermill, and an extensive fabric of *pâte d'Italie*.

BOSHAM, a small village and parish of England, co. Sussex, $\frac{3}{4}$ m. WSW. Chichester, on the London, Brighton, and South Coast railway. Pop. of par. 1,158 in 1861. The village is of historical interest. It was a place of some importance in the earliest times of which we have record, and is more than once mentioned in the old Saxon chronicles. The Saxon kings lived here, and the remains of an old forest still passes by the name of Old Park. Canute's daughter was buried in Bosham church; and it is more probable that if the story of Canute's lecturing his courtiers on the seashore be true, the incident took place here rather than at Southampton. This was the first place upon the Sussex coast in which Christianity was taught; for when Wilfrid landed at Selsey, about the year 680, he found a poor monastery already existing at Bosham. It was from this place that Harold started when he visited Normandy, and Bosham church makes a conspicuous feature near the commencement of the Bayeux tapestry.

BOSNA-SERAÏ, or **SERAJEVO** (an. *Tiberio-*

polis), a city of Turkey in Europe, cap. prov. Bosnia, on the N. bank of the Migliazza, 246 m. S. Buda, and 575 m. NW. Constantinople; lat. 43° 54' N., long. 18° 26' E. Estimated pop. 60,000. The town is well-built, and has an agreeable appearance, owing to the number of minarets, towers, and gardens which it encloses. It contains a *serai*, or palace, built by Mahomet II., to which the city owes its name; about 100 mosques, some of which are elegant structures; several Greek and Roman Catholic churches, with colleges and bazars. Most of the houses are of wood; the Migliazza is here crossed by a massive stone bridge. The city was formerly encompassed with walls, but these are now decayed, and its only defence consists in a large citadel, built on a rocky height at its E. extremity, and mounting 80 cannon. The inhabitants are industrious, and employed in the manufacture of arms, iron, and copper articles, horsehair bags, morocco and other kinds of leather, and cotton and woollen stuffs. Near Bosna-Seraï are the principal iron-mines in Bosnia. It is the chief mart in the prov., the centre of the commercial relations between Turkey and Dalmatia, Croatia and S. Germany, and has considerable trade with the cities of Saloniki and Yanina. The most wealthy families in Bosnia reside in this city; two-thirds of the pop. are said to be Turks, but the Jews monopolise the chief part of the trade.

BOSNIA, or BOSNA, the most westerly pachalic or eyalet of Turkey in Europe, comprising Bosnia Proper, Turkish Croatia, and Herzegovina. It lies between lat. 42° 30' and 45° 15' N., and long. 15° 40' and 21° 2' E.; having NW. and N. the Austrian prov. of Croatia and Slavonia, E. Servia, and S. and W. Albania and Austrian Dalmatia, the latter separating it from the Adriatic. Area variously estimated at from 16,000 to 22,000 sq. m. Pop. from 800,000 to 1,000,000. It is almost entirely occupied by the Dinaric and Julian Alps, which, with their offsets, separate it into several well-marked divisions. Principal river the Save, forming the N. boundary of Bosnia, with its affluents the Unna, which in part separates Turkish from Austrian Croatia—Verbaz, Drin, and Ibar forming its E. boundaries. The Bosna traverses Bosnia Proper, the Sanna, Croatia, and the Narenta, Herzegovina. It has numerous fertile valleys, but no lakes of importance, and only one plain of any size, that of Livno in Herzegovina. This country is supposed to be rich in minerals, but only the iron-mines and a few lead-mines are wrought. Gold and silver exist in various places, and mines of the first of these metals were worked under the Romans; most of the large affluents of the Save bring down gold-dust. Quicksilver is also found, and there are quarries of millstone, freestone, alabaster, and marble, coal-mines, and numerous mineral springs, some of which furnish salt, though not in sufficient quantity for the supply of the country. The climate is generally cold, but not unhealthy; the winter snows lie on the ground for a long time, and the spring is short. In the S. violent winds prevail in winter, and the summer is extremely hot. The mountain-chains, especially in the N., are covered with dense forests of pine, oak, beech, linden, chestnut, &c.; but the S. branches of the Dinaric Alps present a remarkable deficiency of vegetation. The greatest elevations are the Kam, 8,500 ft., and the Dormitor, 7,980 ft. high. The best soil in the valleys is devoted to pasture, and Bosnia is generally better adapted for the feeding of cattle than for agriculture. The Bosniaks, however, seem to prefer the chase to more settled pastoral occupations; and as the woods abound with wild animals, as deer, wild-boars, bears, wolves,

and foxes, they have every facility for carrying it on. The inhab. consist of several races, distributed as follows:—

Nation		Religion	
Turks . . .	246,000	Mohammedans	450,000
Bosniaks . .	350,000	Greek Church	230,000
Servians . .	120,000		
Morlachians .	75,000	Rom. Catholics	151,000
Croats . . .	40,000		
Gipsies . . .	16,000	Gipsies . . .	16,000
Jews	2,000	Jews	2,000
Armenians . .	1,000	Armenians . .	1,000
Total . . .	850,000	Total . . .	850,000

It is only in the valleys that any cultivation is carried on. Wheat, barley, maize, and legumes are grown in sufficient quantity for home consumption, and flax and tobacco near Zvornik and Novibazai. A great variety of fruit is met with. A liqueur is made from plums, and a sweet drink called *pekmes* from pears. The olive and vine are both cultivated; the wines are strong and fiery. Bosnia has a breed of strong horses, but it is much neglected, except by the Turks; there are large herds of fine cattle, and flocks of sheep, the wool of which is greatly esteemed in the markets of the Levant. Goats, hogs, and poultry are everywhere plentiful, and in Croatia many bees are kept, which yield good honey, but inferior wax. The manufactures of Bosnia are limited to iron articles of common use, leather, coarse woollen stuffs, salt-petre at Jaizca, cannon-balls at Kamengrad, gun-powder, firearms, and other weapons. The principal exports are leather, hides, wool, goats' hair, honey, cattle, dried fish, timber, and mineral waters; the chief imports, linens, woollens, silks, lace, glass, and metallic wares—paper, colonial produce, salt, oil, dried fruits, and silver coin from Dalmatia. The transit trade in Levant produce is not inconsiderable; the chief seats of commerce are the towns of Bosna-Seraï, Novibazar, Zvornik, Bagna Louka, Mostar, and Gradiska. The roads are generally very bad, and impracticable for wheel-carriages. The total government revenue derived from this province is estimated at about a million sterling a year.

Bosnia is under the government of a pacha of three tails; it is divided into six sanjaks or circles, and again into forty-eight subdivisions, each of which is subordinate to a military governor and a *cadi*, or judicial officer. Bosna-Seraï is the capital of the prov., but Trawnik is the residence of the pacha. This officer is changed generally every three years; he has under his orders a military force of from 3,000 to 4,000 men. The Bosniaks are of Slavonic origin, though mostly Mohammedans. They differ from the Turks in many usages, and are not addicted to polygamy.

Bosnia was anciently included in Lower Pannonia. In the middle ages it first belonged to the Eastern Empire, and afterwards became a separate kingdom, dependent upon Hungary. The Turks conquered it in 1480, after a war of 17 years; but it was not till 1522 that Solymán the Magnificent finally annexed it to the Turkish dominions. (Cannabich, *Lehrbuch der Geog.*, pp. 745, 746; Von Zedlitz, *Brief Survey of Bosnia*.)

BOSPHORUS (more properly BOSPORUS) OF THRACE, or CHANNEL OF CONSTANTINOPLE, the strait which connects the Black Sea with the Sea of Marmara, and separates the E. corner of Thrace from Asia Minor. The length of this remarkable channel is about 17 m., its width varying from $\frac{1}{2}$ m. to 2 m.; its course slightly winding; its direction very little W. of S., and its

embouchure in the Sea of Marmara is in 41° N. lat., 29° E. long.

A current sets constantly from the Black Sea through the Bosphorus, but, though generally very strong, it is subject to considerable modifications; a long-continued wind from the SW. renders it sometimes almost imperceptible; while, on the other hand, a breeze from the NE. so adds to its force that it is almost impossible for a vessel, under such circumstances, to make head against it. The inequalities of coast cause several changes of direction in the set, as the water is thrown from side to side by the numerous bold promontories that project from both shores; but these do not affect the general course, except by making it more tortuous; that course tending constantly towards the S. and the Sea of Marmara. The depth of water is considerable: there is but one bank in the channel; consequently there is no danger in its navigation, nor any difficulty, except in an upward passage against its current; this is, however, sufficiently baffling to the unskilled Orientals. At its N. mouth, on the Black Sea, are two groups of islets, one on the European, the other on the Asiatic shore; these are the famous Cyanean Isles or Symplegades of the ancients, which it was once believed no vessel ever passed in safety, except by miracle. (Apoll. Rhod. ii. v. 435, &c.) They are now quite harmless, being, in fact, nothing but low continuations of the respective shores; they are in a continual state of decay, and might easily be overlooked, did not their ancient celebrity induce the modern navigator to search for them. In its freedom from all danger, its narrow channel, the strength and constant set of its current, and, in short, in most of its characteristics, the Bosphorus resembles a magnificent river more than an arm of the sea; and this resemblance is by no means impaired by the branch which it gives off at its S. end, and which, enclosing Constantinople on the N., forms what is called the Golden Horn, one of the finest harbours in the world. The country through which the Bosphorus flows is unrivalled for beauty; animals and vegetables of almost every variety abound, and the geology is peculiarly interesting, from the unequivocal evidences it exhibits of igneous action. The cliffs, which are stately and abrupt, consist of jasper, agate, cornaline, calcedoine, porphyry, trap, and calcareous spath, in very great but picturesque confusion. They are all more or less in a state of decomposition, and traces of metals are seen in the colouring of the various stones. Appearances seem to warrant the conclusion that this strait was opened by a convulsion of nature, and this belief was very generally entertained by the ancients (See BLACK SEA.) At about half-way between the two seas, or rather nearer to that of Marmara, at the narrowest part of the channel, stand two castles, one on each bank, named, from the Turkish provinces, Anadolli and Rumeli (Asia Minor and Thrace). They form almost the only defence to Constantinople on the N., and, if well manned, would be very difficult to pass. These appear to be almost the only *public* buildings, but private houses and gardens extend along nearly the whole length of the strait, especially on the European side. (Chevalier, Voy. de la Prop. pp. 43-49; Olivier, Voy. dans l'Empire Oth. i. 120-124; Jones's Trav. ii. 444-451.)

The name Bosphorus (*Βόσπορος*), which has been improperly corrupted by modern orthography to Bosphorus (*Βόσφορος*), is indicative of the narrowness of this channel, and comes from *Bos*, an ox, and *πόρος*, a ford. The passage across it of Europa, borne by Jupiter in the form of a bull, is a well-known Greek legend, and thence the ancients

called those channels Bospori, which were narrow enough to allow of kine swimming across them. Two especially were so distinguished, namely, the strait now under consideration, and the Cimmeric Bosphorus (Strait of Yenicalé), between the Euxine and the Palus Mæotis. Over the Thracian Bosphorus, Darius Hystaspes threw a bridge of boats when he passed from Asia to his disastrous war with the Scythians; and the pillars of marble which he erected to commemorate that event are supposed, with great reason, to have stood upon the spots now occupied by the Turkish castles. (Herodotus Melpom. pp. 85-88; Strabo, vii. 820; Ptolemy, iii. 11; Pliny, vi. 1.)

BOSSINEY-WITH-TREVENA, a bor. of England, co. Cornwall, hund. Lesnewth, par. Tintagel, 208 m. W. by S. London. Its area is 350 acres; its pop. is returned with that of the pa., which, in 1881, was 1,006, but in 1861 only 900. It is on a rugged exposed part of the N. coast of the county, and consists of two small villages $\frac{1}{2}$ m. apart. There is a town-hall now occupied as a charity school: an annual fair is held the first Monday after 19th Oct. It claimed to be a bor. by prescription, and returned two members to the H. of C., under a charter of 7 Edw. VI., till disfranchised by the Reform Act: the elective right was in burgesses holding freehold property in the bor.; of whom there were 24. The area of the whole parish is 8,960 acres. The remains of King Arthur's castle are on the table summit of a huge rock, protruding into the sea, and connected, by a narrow isthmus, with the rest of the parish.

BOSTAN (EL) (an. *Comana*), a town of Turkey in Asia, Natolia, pach. Marasch, at the N. foot of Mount Taurus, in a fine plain, on the Syhoun (an. *Sarus*), 80 m. N. from the bottom of the bay of Iskenderoon, and 115 m. S. by W. Sivas, lat. 38° N., long. 36° 26' E. Pop. 8,000 or 9,000. Mr. Bruce (Appendix to Kinneir's Travels, p. 560) says of El Bostan that 'it has forty dependent villages in the adjacent plain, surrounded with fine trees and cultivated fields and meadows. Few spots in Asia Minor offer a sight more agreeable. There is a great trade in wheat, sold to the Turkmans, who carry it even as far as Aleppo. When fearful of being attacked, the inhabitants lay the environs of the town under water. It has four mosques, one of which is supposed to be very ancient.'

In antiquity Comana was famous for the worship of Mâ, the Cappadocian Bellona. The population consisted, in a great degree, of soothsayers, priests, and slaves belonging to the high-priest, and employed in the service of the temple. The latter, in the time of Strabo, are said to have exceeded 6,000 of both sexes. It received a Roman colony in the reign of Antonius Pius, and, perhaps, also, in that of Caracalla. (Cramer's Asia Minor, ii. 189.)

BOSTON, a sea-port, m. town, and bor. of England, co. Lincoln, on the Witham, 102 m. N. London by road, 28 m. SE. Lincoln, and 107 $\frac{1}{2}$ m. from London by Great Northern railway, on which it is a station. Pop., 1801, 5,926; 1831, 11,240; 1841, 12,942, and 1861, 14,712. The town is supposed by some, from antiquities found in its neighbourhood, to have been a Roman station, and to have taken its name from a monastery built by St. Botolph, A.D. 654, destroyed by the Danes in 870. That it became a place of considerable mercantile importance, after the Norman conquest, appears from the fact that, in 1204, its assessment towards a tax of a fifteenth, imposed on the ports, amounted to 780*l.*, while that of London, the only port taxed higher than it, was but 836*l.* In 1251 it suffered by fire, and in 1286 by an inundation.

Under an act of 27 Edw. III. it became a staple for wool, woollens, leather, and lead. About the same time its mercantile prosperity was much increased by several Hanseatic merchants settling in it, who, however, emigrated about a century after, in consequence of a quarrel with the townsmen, which terminated in bloodshed. During the intermediate period its shipping was so considerable that it furnished 17 ships, and 860 men, towards an armament for the invasion of Brittany, and ranked the twelfth, as to number of vessels, among the 82 ports which were assessed; but it fell off rapidly after the departure of the Hanseatic merchants. The dissolution of the monasteries by Hen. VIII. injured the town, though compensation, in some degree, was made to it by a grant of 511 acres of the sequestered lands. It afterwards suffered by the plague, and by inundations, to which this flat country was particularly liable. During the civil wars, it was for some time the head-quarters of Cromwell's army.

The town, situate on the Witham, called by Leland the *Lindis*, about 5 m. from its mouth, and divided by it into two nearly equal parts, connected together by an iron bridge, built by Rennie, of a single arch of 86½ ft. span, opened in 1837, consists of two long streets, one on each side the stream, from each of which others diverge. It is well built, contains many good dwelling-houses and shops, and extensive granaries and warehouses. The borough is well paved and lighted under the provisions of a local act, and also well supplied with water. Its most remarkable building is the parish church of St. Botolph, erected in 1809. It is the largest church without aisles in the kingdom, being 382 ft. by 98 ft. within the walls. Its tower, called 'Boston Stump,' 263 ft. high, built on the same plan as that of Antwerp, is capped with an octagonal transparent lantern, of very beautiful construction, and forms a remarkable landmark on this low coast, being visible at 40 m. distance. A chapel of ease was erected in 1822. The only traces of St. John's Church, taken down about two centuries ago, are found in its cemetery, still used as a place of burial. The other places of worship are those of the Unitarians, Wesleyan New Connexion, and Primitive Methodists, General and Particular Baptists, Independents, and Roman Catholics. A free grammar-school was founded in 1544; Laughton's, for the sons of poor freemen, in 1707; a blue-coat school in 1718, for 30 boys and 25 girls; and a national British and Infant school, together educating about 500 pupils of both sexes: there is also a dispensary and a very handsome Union house, this being a 'union' under the new Poor Law. The other public places are the corn exchange and atheneum, three subscription libraries, assembly-rooms, a theatre, and a public promenade at Vauxhall Gardens. Since the passing of the Municipal Reform Act the town has been divided into two wards, and is governed by a mayor, six aldermen, and 18 councillors. It has returned two members to the H. of C. since the reign of Edward VI. Previously to the Reform Act the franchise was vested in the members of the corporation, and in the freemen who resided in and paid scot and lot in the borough. The parli. borough includes the parishes of Boston and Skirbeck, and the hamlet and fen allotment of Skirbeck quarter, extending in all over 7,923 acres, and had in 1861 a pop. of 17,893. Registered electors, 1,019 in 1864, of which 174 remaining old freemen. It is a polling-place for the county. There were several guilds, both religious and civil, all of which have fallen into desuetude; the hall of that of the Blessed Virgin Mary, which was one of the most

important, is used by the corporation for their municipal meetings. Petty sessions are held on Friday. A court leet for the borough sits annually: its principal duty is to present nuisances. A court of record, which decides pleas in all actions, real, mixed, and personal, sits on Wednesdays and Saturdays. It is also the seat of a county court. The gross estimated rental assessed to poor rate was 51,076*l.* in 1861, and the amount assessed to property-tax 79,713*l.*

The manufactures of Boston are mostly confined to sailcloth, canvas and sacking; there are two iron and brass foundries, and three ship-yards, with patent slips, where vessels of 200 tons are built. Markets are held on Wednesdays and Saturdays; fairs for cattle and sheep are on May 4 and 5; for fat cattle on Aug. 11; for horses about Nov. 18 and 8 days after; and for horned cattle only on Dec. 11. Immense numbers of the finest cattle and sheep are sold at these fairs, the town being in the centre of one of the richest grazing districts in the kingdom. The banking establishments are—the National and Provincial Bank of England; a branch of the Stamford, Spalding and Boston Bank; with two private banking houses. The principal drainages in the vicinity are those of the Holland fens made by a cut of 12 m. from the town to Dogdyke, near Tattersall, by which 22,000 acres were reclaimed; and the Wildmore fens, 41,000 acres, drained in a similar manner. Owing to the neglect of keeping the river clear, the trade fell off so as to be almost extinct. In 1721, vessels of 250 tons could discharge at the town; in 1751, sloops of 6 ft. draught could not come up, except at springs. The drainages, already mentioned, revived attention to the state of the river, and under special acts of parliament, have improved it so far that vessels of 120 tons come up to town, whence the navigation is continued to Lincoln by small steamers and barges. A sluice was also erected to retain the water above the town. The navigation to Lincoln is extended by the Fossdyke Canal to the Trent, at Turkesey, and thence, either by still water or river navigation, to Gainsborough, Nottingham, and Derby, thus opening a vent for the export of the manufactures of the midland counties. The foreign trade is chiefly confined to the importation from the Baltic of timber, hemp, tar, pitch, and iron. The coasting trade is chiefly in the export of corn, wool, and other agricultural produce, the return cargoes consisting of coal and manufactured goods. The shipping, in the year 1863, consisted of 606 vessels, of 28,716 tons burden, which entered the port, and 847 vessels, of 19,923 tons, which cleared. The greater number of these were sailing vessels. Of steamers, there entered 43, of 3,440 tons, and there cleared 38, of 3,040 tons. There is a good custom-house, and a pilot establishment of a master and 12 pilots. Extensive powers are vested in the mayor and burgesses by two local acts for improving the port and harbour, under which they are empowered to collect tonnage, wharfage, and lastage, from vessels that enter; the receipts to be applied to its improvement. They are also empowered to make bye-laws, to which all vessels are to be subject. Part of the port dues are collected at Spalding and at Wainfleet, to each of which the jurisdiction of the corporation extends. On the 31st December, 1863, there belonged to the port of Boston, 82 sailing vessels of and under 50 tons, the whole of 2,925 tons burden, and 47 sailing vessels above 50 tons, of a total burden of 3,356 tons. There were, besides, 2 small steamers, of 33 tons burden. (Dugdale's Hist. of Embanking and Draining; Noble's Gazetteer of Lincoln;

Thompson's History of Boston; annual statement of trade and navigation for the year 1863.)

Boston, a marit. city of the United States, the principal place in New England, and the cap. of Massachusetts; on a small peninsula at the bottom of Massachusetts Bay, connected with the mainland by a narrow isthmus, called Boston Neck, 207 m. N.E. New York; lat. of lighthouse, 42° 19' 41" N., long. 70° 58' 43" W. According to the census of 1860, Boston was the fourth largest city in the United States, only New York, Philadelphia, and Baltimore having a larger population. There were 177,812 inhabitants in 1860, against 136,881 in 1850.

The bay, which is very extensive, is studded with numerous small islands, which protect the harbour from the winds, and afford convenient situations for forts commanding the approaches to the city by water. The harbour is excellent, being of great size, with water sufficient to admit the largest ships, and so completely land-locked, that the vessels in it are almost as secure as if they were in dock. At the outer entrance to the bay is a lighthouse 65 ft. high, with a revolving light. The bridges, some of which are of great length, connecting the city with its adjacent suburbs and the continent, are all of wood; but it is joined by a causeway of earth to Brooklyn, and the W. Avenue, as it is called, leading across the bay to Roxbury, is also of earth, but is partly only artificial, being fenced on each side by walls of stone. This avenue serves the double purpose of a bridge and a dam, and, with the addition of a cross dam of a similar construction, forms two large basins; one of which being filled with every flood, and the other emptied with every ebb tide, a perpetual current for the use of mills, &c. is established. The wharfs are very extensive: the Long Wharf is 1,650 ft. in length, by 200 ft. wide, and contains seventy-six large warehouses; the Central Wharf is 1,250 ft. long, by 150 ft. wide; and there are others nearly as extensive. The wharfs, as well as many other parts of the city, have been built on sites formed by raising ground originally covered by the tide. Most of the streets are narrow and crooked; but the houses, which are generally of brick, though many of them are of granite and sienite, are large and well built. The principal public buildings are the state-house; co. court-house; the Faneuil-hall, in which public meetings and public assemblies are held; the Massachusetts General Hospital; and the market-house. The state-house, a brick building, fronts the common, a fine park of 75 acres, and the principal public square in the city, of which it occupies the most elevated part, 100 ft. above the bay. The market-house is a handsome granite edifice, two stories high, 540 ft. in length, and 50 ft. wide; the court-house is also of granite, 176 ft. long, 57 ft. high, and 54 ft. wide, adorned with massive Doric por-ticos. The general hospital is a handsome granite building, surrounded by open grounds of four acres in extent. Tremont-house, the front of which is built of grey sienite, in the Doric order, and several of the bank buildings, are rendered deserving of notice by their architecture. There are above sixty churches, two theatres, an odeon, &c.; an eye and ear infirmary; with houses of industry, reformation, and correction; a county gaol, &c. Boston, with the small town of Chelsea, constitutes the county of Suffolk, which is represented in the senate of the state by six senators. The city is divided into twelve wards; the municipal government is vested in a mayor, eight aldermen, and a common council of forty-eight members, all of whom are chosen annually by the citizens. There is a police court of three justices, for the trial of

minor offences, and the examination of criminal charges; as well as a municipal court, held by a single judge, with jurisdiction in all criminal causes not capital. The annual expenditure of the city amounts to about 600,000 dollars.

Boston is connected with the interior both by canals, railways, and river navigation; and has a very extensive trade both with foreign countries and also with the S. states of the Union. The town is wholly indebted to the latter, and principally to New York, Maryland, and Pennsylvania, for supplies of flour and wheat, and for large quantities of oats, rye, barley, and other grain; as well as for cotton, tobacco, rice, staves, and coal. The returns are made partly in native raw produce, as beef, pork, lard, &c.; partly in the produce of her manufacturing industry, in which Massachusetts is decidedly superior to every other state in the Union; and partly in the produce of fisheries and foreign trade. Her exports to foreign states consist principally of the same articles she sends to the S. states; but she also re-exports a large amount of the foreign produce she had previously imported. Her imports from foreign countries consist principally of cotton, woollen, and silk goods; hardware; sugar, tea, coffee, wines and brandy, indigo, and other dye stuffs, spices, &c. The subjoined statement shows the number of vessels, with tonnage, which entered the port of Boston in the four years 1860 to 1863:—

1860.		
	Vessels	Tons
American . .	838	283,341
Foreign . .	2,081	358,683
Total . .	2,919	642,023
1861.		
American . .	926	344,191
Foreign . .	2,190	374,536
Total . .	3,116	718,567
1862.		
American . .	783	247,004
Foreign . .	2,231	386,463
Total . .	3,014	633,467
1863.		
American . .	985	359,339
Foreign . .	2,083	374,828
Total . .	3,073	734,167

The value of both imports and exports, in the two years 1862 and 1863, was as follows:—

	1862	1863
	Dollars.	Dollars
Aggregate of Imports, including specie and Bullion . .	23,438,808	27,221,043
Do. Exports, including do. . .	10,344,305	17,476,136
Imports, exclusive of Specie and Bullion . .	23,301,641	27,090,010
Exports, exclusive of do. . .	16,896,769	14,886,286

Boston is the seat of the American ice trade, and there are numerous companies engaged in the business of shipping ice for the southern parts of the Union, the Havannah, &c. Boston ice is found in every part of the world, immense quantities being shipped for S. America, the E. and W. Indies, and China. It is mostly called 'Wenham Lake,' but, in reality, only a very moderate quantity is cut on that pond. It is so much an article of necessity with all Americans that nothing surprises and annoys them more on their travels than the parsimonious use of it in Europe. They frequently say that the first ring of it against the tumbler on their return is like a sweetest, and

most home-like greeting. The export is steadily increasing, and was in the year 1864 :—

	Tons
To Calcutta	7,472
" Hong Kong	2,881
" Bombay	3,255
" Madras	1,508
" Cape of Good Hope	300
" Mauritius	1,350
" Kingston, Jamaica	2,232
" Barbadoes	1,309
" Havannah	8,131
" St. Thomas	1,232
" All other ports	75,137
Total	1864 104,356 1863 71,245

(Report by Mr. Consul Lousada on the Trade and Commerce of Massachusetts for the year 1864.)

Boston has always been favourably distinguished, by her attention to education and literature. The North American Review and other valuable works are published here. Harvard University is established about 3 m. from the city, which contains its medical department. It has also a Latin and a high school; numerous public grammar and writing schools, in which arithmetic, geography, and history are taught; many primary schools, and an African school; all of which are under the direction of a school committee, consisting of the mayor, aldermen, and twelve other members, elected annually. There is also an Athenæum, with a library of 90,000 vols., a picture gallery, and a public hall for lectures. The school for the instruction of the blind, founded in 1833, is said to be extremely well managed. The American Academy of Arts and Sciences, the Historical and Natural History societies, are amongst its learned associations: it has also a humane society, orphan asylums, and numerous other charitable establishments. A host of daily, tri-weekly, weekly, monthly, and other periodical journals, are published.

There are a vast number of banking establishments at Boston, the condition and activity of which is shown in the subjoined statement. It is for Nov. 30, 1863 :—

Boston Banks	Dollars
Capital Stock	38,031,700
Circulation	9,745,094
Deposits	32,366,287
Due to other Banks	11,577,644
Total Liabilities	91,720,725
Notes and Bills Discounted	75,612,363
Specie	7,729,708
Due from other Banks	11,946,618
Total Resources	95,287,684

Boston was founded in 1630, and so named from the town in England previously described, whence many of its inhabitants had emigrated. Throughout the whole period of its history, its inhab. have displayed great energy in asserting popular rights, and took the lead in opposing the taxation of the American colonies in the reign of George III.; in consequence of which, the port of Boston was closed, by an act of parliament, in 1774. A British garrison was also stationed in the city, but being besieged by the American army in 1775–76, the British were at last obliged to evacuate it. Boston is the birthplace of Dr. Benj. Franklin, who was born here on the 6th of January, 1706. (Official Papers, published by Congress; The National Almanac, 1864; Reports of Mr. Consul Lousada on the Trade of Massachusetts, in Consular Reports, 1864.)

BOSWORTH (MARKET), a par. and town of England, co. Leicester, hund. Sparkenhoe. Area of par. 7,220 acres. Pop. of par. 2,539 in 1841, and 2,376 in 1861; pop. of town 1,135 in 1841, and 997 in 1861. It will be seen that the pop. is decreasing. It is a neat little town on an eminence, in the centre of a fertile district. It has a well-endowed grammar-school, in which Dr. Johnson was once an usher; but its property, above 700*l.* a year, has been the subject of a long chancery suit. It has 2 fellowships and 4 scholarships in Emanuel Cambr. There are 2 cattle fairs held annually, May 8 and July 10. The Ashby Canal passes within a mile, and conveys coals, &c. It is the central town of a poor law union of 28 parishes; has 2 guardians, and its average annual poor-rates are 76*s.*

The decisive battle between Richard III. and the Earl of Richmond, afterwards Henry VII., in which the former lost his crown and his life, and which terminated the long-continued struggle between the houses of York and Lancaster, takes its name from this town, in the vicinity of which it took place, on the 22nd of August, 1485. In the battle-field is a well, named from Richard III., with an inscription by the late Dr. Parr; and an elevation, called Crown Hill, where Lord Stanley is said to have placed Richard's crown on the Earl of Richmond's head. (Nichol's Leicestersh.; Hutton's Boswell Field.)

BOSZRA, a town of Syria, formerly the cap. of the Aurantes; 50 m. N. Damascus, 80 m. N.E. Jerusalem; lat. 32° 40' N., long. 36° 30' E. Though now almost deserted, the ruins are extensive and magnificent: the principal of these, or at least the most sacred, in Mohammedan estimation, is the Deir-Bohaira (House of Bohaira), so called from being consecrated to a monk of that name, who is said to have proclaimed the sacred character of Mohammed, when the prophet, in his 13th year, visited Syria with his uncle. The great mosque, a very ancient temple, a triumphal arch, a castle of great strength, remnants of the city walls, and a reservoir 500 ft. long, 300 wide, and 20 deep, are among the remains of ancient grandeur; in addition to which the whole town and its environs are covered with pillars and other ruins of the finest workmanship. Boszra is very ancient: it is mentioned in the Sacred Writings as one of the cities which the half tribe of Manasseh, beyond Jordan, gave to the Levites. (Josh. xxi. 27.) At this time, and for ages subsequently, it was celebrated for its vineyards, which are commemorated on the Greek medals of *Κολωνία Βοστρῆς*, but of these no vestige now remains. After the establishment of Christianity, it was an archbishop's see, with 19 bishoprics under its jurisdiction. Its strong castle was built by the Saracens, between whom and the Latin kings of Jerusalem it several times changed masters, and under Baldwin IV., A.D. 1180, it was entirely ruined and depopulated. (Abul-Feda, Vit. Mah. c. 4; Tab. Syr. pp. 51, 99; Adrichomius, Ter. Sanc. 79, 80; Burckhardt, Trav. Syr. pp. 224–236.)

BOTANY BAY. See AUSTRALIA and NEW SOUTH WALES.

BOTHNIA (GULF OF), the N. arm of the Baltic, which see.

BOTHWELL, a par. and village of Scotland, county Lanark, on the N. side of the Clyde. The village lies on the road from Glasgow to Hamilton, 8 m. E. of the former, and 3 NW. of the latter, near the Edinburgh-Glasgow railway. Pop. 1,057 in 1861, of whom 439 males and 618 females. About a mile from the village, towards the SE., the road to Hamilton is carried over the Clyde by Bothwell-bridge, the scene of one of the most memorable events in Scottish history. The

covenanters, to the number of 4,000 or 5,000, having taken possession of the bridge, then much narrower than at present, were attacked, on the 22nd of June, 1679, the bridge forced, and their army totally routed by the royal forces, under the Duke of Monmouth. (Laird's Scotland, iv. 104.) Near the village is the magnificent ruin of Bothwell Castle, once an important Scottish fortress. The par. is well wooded and well cultivated.

BOTZEN, or BOLZANO (an. *Pons Drusi*), a town of the Austrian states, Tyrol, cap., circ. in a pleasant well-sheltered valley, at the confluence of the Eisach and Talfer, a little above where their united waters fall into the Adige, 80 m. NNE. Trent. Pop. 8,200 in 1857. It is a thriving well-built town, in the Italian style; has a castle, several convents, a college, and some manufactures of silk stockings. A strong dyke of masonry, nearly 2 m. in length, and in parts 24 ft. thick, has been constructed to defend the town from the irruptions of a neighbouring mountain-torrent. Being intersected by high-roads leading to Switzerland, Austria, and Italy; with a station on the railway over the Alps, from Innsbruck to Verona, Botzen has an extensive transit trade. It is also celebrated for its fairs, commencing the 18th March, 14th June, 9th September, and 30th November, continuing each fourteen days, which are attended by a great concourse of French, Germans, and Italians. The country round produces excellent wine, and fruits in abundance. Botzen is supposed to occupy the site of the ancient Roman citadel, *Pons Drusi*.

BOUCHAIN, a fortified town of France, dép. du Nord, cap. cant., on the Scheldt, by which it is intersected, 12 m. SE. Douai, on the railway from Douai to Cambrai. Pop. 1,501 in 1861. The fortifications are of very considerable strength, and the adjacent country may be laid under water. The Duke of Marlborough took it in 1711, after a memorable siege; but, being retaken by Marshal Villars in the following year, it was finally ceded to France at the treaty of Utrecht. It was one of the frontier fortresses occupied by the allies after the peace of 1815.

BOUCHES-DU-RHONE, a marit. dép. S. of France, situated, as its name implies, at the mouths of the Rhone. It is bounded E. by the dép. of the Var; N. and W. by the Durance, Rhone, and the W. arm of the latter, which separate it from the dépts. of Vaucluse and Gard; and S. by the Mediterranean. Area, 601,960 hectares, or 2,331 Eng. sq. m. Pop. 507,112 in 1861. Soil and surface various, but the former generally inferior. The last offsets from the maritime Alps occupy the E. parts of the dép., but they are not remarkable either for their height or appearance. The highest summit, that of St. Victoire, is 1,042 mètres (3,420 ft.) above the sea. The plain of Le Crau and the isle of Camargues occupy a large portion of the surface. The first is of great extent, stretching from Arles to the lagoon of Berre. It has very little vegetable mould, and is formed principally of flints and other small stones; during winter it furnishes pasture to large flocks of sheep and goats; the former being driven in summer, when it is arid and waste, to the mountains. It is supposed by many that this plain was formerly a gulf of the sea, and various circumstances conspire to strengthen the supposition. The island of Camargues is the delta or alluvial land lying between the E. and W. arms of the Rhone, and is partly cultivated and in pasture, and partly occupied by marshes and lagoons. The latter, indeed, make one of the principal features of the dép. The principal are the lagoon of Vulcarris, in the island of Camargues, and that of Berre or Martha, 12 m.

NW. Marseilles. They and the continuous marshes occupy a great extent of land, and in summer are very unhealthy. Principal rivers, Rhone and Durance; the latter rushes along with great violence, frequently overflowing its banks, and causing great damage. There are also some smaller rivers, and the department is intersected by several canals. Climate generally hot and dry, and the country in summer has a barren parched appearance. Agriculture bad, a consequence ascribable, partly to the minute division of property, and the attachment of the little proprietors to routine practices, but more, perhaps, to the unfavourable nature of the soil and climate. In the mountainous parts in the E. and NE. there is a good deal of spade husbandry; in the S. and NW., mules are employed in field-labour, and horses in the W. and the island of Camargues. The produce of corn is insufficient for the consumption; but the produce of wine is estimated at about 820,000 hectolitres, leaving a large surplus for exportation. The produce of silk is estimated at about 330,000 kilog. Olives are largely cultivated; and the gathering of kermes continues to be a good deal attended to. The dried fruits of the dép. are much esteemed. Horses and cattle are few in number, and not of good quality. The great wealth of the dép. consists in its sheep, of which it possesses about 800,000. From 400,000 to 500,000 of these sheep are annually driven, about the beginning of spring, to the mountains of the Drome, the Berre, and the high and low Alps, where they are depastured during the summer. When the period for setting out arrives, several proprietors join their flocks together, to the number sometimes of 25,000. Previously to the Revolution, the migratory flocks enjoyed privileges somewhat similar to those of the *Mesta* in Spain, but they were then abolished. The lagoons are resorted to in winter by myriads of aquatic fowl, which, when the frosts set in, are taken in vast numbers. Minerals, of little importance. There are brine springs, and salt is made in several places. This is more of a commercial than of a manufacturing dép. With the exception, indeed, of fabrics of soap and *soude factice*, hosiery, sugar refineries, some establishments for the manufacture of cutlery, coral-works, oil-mills, and silk filatures, with distilleries, tanneries, &c., manufactures are of little importance. The commerce of the dép. is, however, very extensive, Marseilles having been for several years past at the head of the commercial cities of France. (See MARSEILLES.) The herring and anchovy fisheries are extensively carried on. Principal towns, Marseilles, Arles, Aix, Tarrascon, and Aubagne. The dép. is divided into three arronds, namely, Marseilles, Aix, and Arles-sur-Rhône.

BOUIN, an island on the coast of France, between the dépts. of Loire Inférieure and La Vendée, belonging to the latter, from which it is separated by a narrow channel. It is of a triangular shape, low and marshy. Area, 3 sq. leagues. Pop. 2,444 in 1861. It produces corn and cattle, but especially salt, obtained in large quantities from the salt marshes that surround the village of Bouin, in the centre of the island. According to some historians, it was here, in 820, that the Normans made their first descent on the coast of France.

BOULOGNE, or, as it is sometimes called, **BOULOGNE-SUR-MER**, a seaport town of France, dép. Pas du Calais, cap. arrond., on the Liane, near where it falls into the English Channel. 20 m. SSW. Calais, and 139 m. NNW. Paris, by the Northern railway. Pop. 36,265 in 1861. Boulogne is divided into the upper and lower towns. The former is pretty well-built, but is irregularly laid out. It has two squares, ornamented with

fountains; and contains the cathedral, the ancient episcopal palace, the hôtel-de-ville, and the courts of justice. It also contains the house where Le Sage, the author of *Gil Blas*, lived and died. The fortifications, by which the upper town was formerly defended, have been mostly demolished, the old castle and the walls only remaining. The ramparts have been planted with trees, and afford a delightful promenade, commanding a view that extends to the coasts of England, which are distinctly visible. The lower or new town is situated at the bottom of the hill, and is intersected by the Liane: it is the most populous, most commercial, and best built. It is regularly laid out, and has several public buildings, among which may be specified the baths, the general hospital (founded in 1692), the barracks, a public library containing 30,000 volumes, and a theatre. A magnificent column, dedicated by the grand army collected here in 1805 to Napoleon, but not finished till 1821, stands on a hill nearly a mile from the town: it is crowned by a gallery surmounted by a dome, and is 164 ft. high. The harbour, which was formerly dry at low-water, and nearly shut up by the bar at the river's mouth, has been vastly improved, though it still labours under a deficiency of water. It is formed of two large basins, connected by a quay. Ships may anchor at from $\frac{1}{2}$ to $\frac{3}{4}$ m. off the harbour, in from 6 to 9 fathoms. Boulogne is the seat of tribunals of primary jurisdiction and commerce, and has societies of agriculture, commerce, arts, and sciences; a museum of antiquities and natural history; a free school for navigation, &c.; with manufactures of coarse woollen stuffs, sail-cloth, earthenware, and bottle-glass; and tanneries, rope-works, and tile-works. A good deal of trade is carried on from the town, and the herring, mackerel, and cod fisheries all vigorously prosecuted. Notwithstanding the large quantities of fish that are constantly being sent to Paris, the supply in the town is always abundant and cheap.

Boulogne has recently been much resorted to by English visitors and families, and many of the latter have made it a permanent residence, particularly since the opening of the railway to Paris. A constant communication is kept up with London and Folkestone, by means of steamboats; and the route from London to Paris by Boulogne is now frequently preferred to that by Calais. In consequence of this influx of English visitors and residents, the population of the town has more than doubled since 1815, and it has now much of the appearance of an English town. Numerous boarding-schools have been opened, and balls, horse-races, and bazaars have been established for the instruction and amusement of the English.

Boulogne is a place of great antiquity. During the dominion of the Romans it bore successively the names of *Gesoriacum Navale*, and *Bononia*, whence its modern name is derived. During the middle ages, and in more modern times, it has undergone many vicissitudes, having been frequently besieged and taken. In the early part of this century it rose into great celebrity, from Napoleon having collected a large flotilla in its port, and made it the headquarters of the army avowedly intended to invade England.

BOULOGNE, a vil. of France, dép. Seine, between the Seine and the wood of Boulogne, 4 m. W. Paris, and forming a suburb of the French metropolis, by means of the chemin-de-fer de ceinture, or 'girdle railway.' Pop. 6,016 in 1841, and 13,944 in 1861. The increase of population has been entirely owing to the influx of residents from Paris. Boulogne is handsome: the adjoining wood is, in the fine season, the favourite promenade

of the Parisian fashionables. The *Château de Madrid*, in this wood, built by Francis I., was demolished in the reign of Louis XVI.; and only a small part now remains of the *Château de la Muette*, some time occupied by Louis XV. (See PARIS.)

BOURBON (ISLE OF), also called ISLE DE LA RÉUNION, an island belonging to France, in the Indian Ocean, between lat. 20° 50', and 21° 24' S., being 90 m. WSW. the island of Mauritius, and 440 m. E. Madagascar. Shape oval; greatest length, NW. to SE., 40 m.; greatest breadth, 27 m.: area 232,000 hectares, or nearly 900 Eng. sq. m. Estimated pop. 180,000, of whom about one-fifth whites, and the rest negroes and coolies. The island is geologically formed by two systems of volcanic mountains, one at either extremity: the central point of the most northerly system, the *Piton des Neiges*, the highest summit in the island, is 3,150 mètres, or 10,355 ft., above the level of the sea; the highest point of the southerly system is the *Piton de Fournaise*, an active volcano, 7,218 ft. in height. These two volcanic centres are connected by a chain of mountains running N. and S., which divides the island into two parts—that on the E. side being called the windward, and that on the W. the leeward division (*Parties du Vent and Sous le Vent*), in consequence of the prevailing winds in Bourbon being from E. to S. There are no plains of any size: although the island is watered by many small rivers, none of which are navigable; there are several lakes, one occupying an extent of about 40 acres. The shores are not generally high; but the island has no safe roads, nor any harbour—circumstances which have always been felt as serious drawbacks. The climate is healthy and agreeable, especially that of the E. part: the air is pure, the sky clear, though this tranquillity be sometimes broken by violent hurricanes. From Dec. to May is the hot and rainy season, when the mean temperature is 80° Fahr.; during the remaining or temperate months, the mean is 76° Fahr. The soil is very fertile, particularly in the vicinity of the shores, where there are extensive alluvial deposits, which, like the soils in other parts of the island, consist largely of volcanic matters. The surface is distributed as follows: cultivated lands, 65,702 hectares; pasture, 14,040 ditto; woods and forests, 55,921 ditto; waste lands, 95,887 hectares.

The cultivated lands form a girdle round the island, and in some parts ascend the mountain-slopes to considerably more than 8,000 ft. above the level of the ocean. They are estimated to be divided as follows:—

Articles of Culture	Hectares in Culture	Product
Sugarcane	14,530	Raw Sugar 23,384,116 kilog. Molasses, &c. 1,658,840
Coffee . .	4,179	Rum . . 535,842 litres.
Cloves . .	2,980	Coffee . . 928,200 kilog.
Cacao . .	28	Cloves . . 193,500
Tobacco .	471	Cacao . . 10,000
Grain, &c.	43,514	Tobacco . . 82,000
Total .	65,702 hect.	Grain (value) 2,656,947 fr.

The sugarcane is mostly of the Batavian variety; it was not very extensively cultivated before 1818, but is now largely grown, especially in the E. division of the island, where it has almost entirely superseded coffee. The coffee-plant was introduced from Mocha in 1717, and was subsequently much cultivated; but having been found to suffer severely from hurricanes and in-

sects, its culture has been in great part discontinued: the best coffee is produced on the leeward side of the island. The cloves are chiefly sent to India, where they are exchanged for rice: the tobacco obtained is not enough for home consumption; and the wheat, rice, maize, and other grain raised in the island, does not exceed one-fourth part of the required supply. Potatoes, beans, and other leguminous plants, a great variety of fruits, &c., succeed remarkably well. The culture of cotton has been all but abandoned: manioc, introduced into the island by the celebrated M. de la Bourdonnais, forms the staple food of the blacks. Pasturage being deficient, oxen are imported from Madagascar: a great number of the cattle are fed for six months of the year upon the leaves of the sugar-cane. At the period at which Bourbon was first occupied by the French, the sides of the mountains were covered with forests, which reached even to the shores; the whole of the lower lands have been cleared, but the centre of the island is still covered with its primitive vegetation, which affords forty-one different species of woods serviceable for arts and manufactures. The coasts abound with fish and large turtles, and furnish also coral and ambergris. The fisheries occupy about 460 individuals, who take about 150,000 kilog. of fish annually, two-fifths of which are consumed by themselves and their families, and the other three-fifths sold in the island, realising about 300,000 francs a year. The island is divided into two arrondissements, called 'Du Vent,' and 'Sous le Vent,' six cantons, and thirteen communes; and contains two towns, those of St. Denis and St. Paul. There are eight market-towns, heads of cantons, most of which are built on the coast. The chief manufacturing establishments are brick and lime kilns, tanneries, forges and foundries, tin-ware factories, a brewery, and manufactories of bags of palm-leaf (*sacs de racoua*). Nearly all the exports go to, and nearly all the imports come from, France. The commerce with Great Britain is insignificant. The total exports to the United Kingdom direct amounted, in the year 1861, to 5,591*l*, representing 6,271 cwts. of unrefined sugar. In 1859, as well as in 1862 and 1863, the commerce with Great Britain was nil. The chief imports from France are rice, wheat, oil, wines, cattle, timber, salt, glass, porcelain, &c., with cottons and other manufactured goods. The total imports from France, in 1863, were of the value of 39,654,186 fr., or 1,586,167*l*; and the total exports to France amounted to 28,472,455 fr., or 1,138,898*l*. The government is similar to that of the other French colonies, and is administered by a governor, and a council of thirty members, elected by the domiciliated French colonists paying a direct contribution of 200 fr. annually. There is a royal court, with two courts of assize, two tribunals of primary jurisdiction, and a justice of the peace in each canton.

Bourbon contains a college and numerous schools, sixteen churches, two hospitals, two establishments for the relief of the poor, and two prisons. Four newspapers are published in it, and there is a public library at St. Denis. The island was discovered in 1545 by Mascarenhas, a Portuguese navigator, whose name it bore, till the French took possession of it in the next century. The English took it in 1810; but it was restored to France in 1815. The principal towns are St. Denis, St. Paul, and St. Benoit. St. Denis, the cap., is situated on a plateau on the N. coast of the island, at the mouth of the river of the same name; lat. 20° 51' 30" S., long. 55° 30' E. It has about 12,000 inhab. It is mostly of wood, the *Hôtel du Gouvernement* being the only public building of any importance.

It is the seat of a royal court, and of a court of primary jurisdiction, and has a college with about 160 pupils, a hospital, an arsenal, and a celebrated botanical garden. St. Paul, the second town in the island, on its W. coast, has 10,000 inhabitants, with a fine church, a tribunal of original jurisdiction, and a hospital. Neither St. Denis nor St. Paul have harbours, but only open and exposed roadsteads. (Notices Statistiques sur les Colonies Françaises, p. 1-140; Etats de la Population des Colonies Françaises.)

BOURBON-LANCY, a town of France, dép. Saône et Loire, cap. cant., on the declivity of a hill near the Loire, 27 m. WNW. Charolles. Pop. 2,814 in 1861. It is commanded by an old castle on the summit of a steep rock. This town is celebrated for its mineral springs, of which there are seven, six cold and one hot. They are employed in nervous affections and rheumatisms. These springs were known to the Romans by the name of *Aqua Nisinet*; and remains of the baths they had erected are said still to exist, while numerous Roman medals and an entire and beautiful statue have been dug up. The present baths were begun by Henry III. and finished by Henry IV. and Louis XIII.

BOURBON-L'ARCHAMBAUD, a town of France, dép. Allier, cap. cant., 13 m. W. Moulins. Pop. 3,253 in 1861. The town is situated at the bottom of a valley, in a rich and finely variegated country. The towers are all that now remain of the famous Château de Bourbon, rebuilt in the thirteenth century. The Holy Chapel, erected in the fifteenth century, by Anne of France, and so much admired, was destroyed at the Revolution. The town is now celebrated only for its mineral springs and baths, known to the ancient Romans, and said to be of great efficacy in cases of paralysis, rheumatism, and gun-shot wounds. They are frequented from May to September. There is good accommodation for visitors, and a hospital for the indigent.

This town had for a lengthened period lords of its own, who bore the title of barons. Aimar, who lived in 921, in the reign of Charles the Simple, was the first of these barons of whom there is any authentic account. Having been succeeded by his third son Archambaud, his name became that of all his successors in the seignory. Archambaud IX., the last of the name, having accompanied St. Louis to the East, died in Cyprus. Beatrix of Burgundy, his grand-daughter, married Robert of France, Count of Clermont, one of the sons of St. Louis, bringing to him in dowry the lordships of Bourbon, Charolais, and St. Just, in Champagne. Their posterity, according to the custom of the house, took the surname of Bourbon; and subsequently filled the thrones of France, Spain, Naples, and Lucca.

BOURBONNE-LES-BAINS, a town of France, dép. Haute Marne, cap. cant., at the confluence of the Borne and the Apance, 21 m. ENE. Langres. Pop. 4,080 in 1861. The town is agreeably situated on the plateau and acclivity of a hill; and having been nearly burnt down in 1717, has been rebuilt on a regular plan, and has some fine promenades and fountains. It owes its celebrity to its hot baths, which occupy the site of a thermal establishment of the Romans. The modern buildings connected with the baths, including the Hôtel de Ville, a recent erection, most part of which is appropriated to the use of the company using the waters, are among the finest of the kind in France. A hospital, founded here in 1732, for the use of the military attending the baths, has been much enlarged since 1815, and is now capable of accommodating 500 soldiers and 100 officers. The heat

of the water varies from 40° to 52° Reaumur, or from about 120° to 156° Fahrenheit. They are principally employed in cases of paralysis and rheumatism.

BOURBON-VENDETE, or **NAPOLEON-VENDEE**, a town of France, dép. Vendée, of which it is the capital, on the right bank of the Yon, nearly in the centre of the dép., 40 m. S. Nantes, with which it is connected by railway. Pop. 8,298 in 1861. This town occupies the site of Roche-sur-Yon, a strong feudal castle, having near it a miserable little town. The castle, after undergoing many vicissitudes, was dismantled by Louis XIII., and finally destroyed in 1798. After the establishment of the imperial government, and the pacification of Vendée, it became necessary to select a place for its capital, and Roche-sur-Yon was fixed upon. Napoleon gave the town, which had to be entirely created, his own name, which it bore till 1815, when, with the restoration of the Bourbon, it recovered its old name. But the accession of Napoleon III. once more brought back the imperial prefix, by which the place is still officially known; though the people mostly adhere to the original name. The old town occupies the ravine between the barracks and the new town. The town has a tribunal of primary jurisdiction, a departmental college, a society of agriculture, sciences, and arts, a public library with 5,000 volumes, a hospital, and a theatre.

BOURBOURG, a town of France, dép. du Nord, cap. cant., on the canal of Colme, communicating with Dunkirk, 9 m. SW. Dunkirk. Pop. 2,617 in 1861. Its name is derived from the miry nature of the soil (bourbeux) on which it is built. It has fabrics of tobacco, potteries, and tile-works. Previously to the revolution there was here an abbacy for noble ladies, of which the unfortunate Marie Antoinette was patroness.

BOURG, or **BOURG-EN-BRESSE**, a town of France, dép. Ain, of which it is the cap., on the Keyssouse, 21 m. ESE. Mâcon; on the railway from Mâcon to Chambéry. Pop. 14,052 in 1861. Situation pleasant; streets narrow and crooked; formerly almost all the houses were built of wood, and many of them are so still, but within the last half-century the use of stone has become more general. It is traversed by the little rivulet Cone, and has several fine fountains. The ditches by which it was surrounded were dried in 1771, and have been converted into gardens. Principal public buildings—the cathedral or high church, the *halle-au-ble* or grenette, theatre, Hôtel de Ville, prefecture and a monument in honour of Gen. Joubert. It has a court of primary jurisdiction, a departmental college, a primary normal school, a public library with 18,000 volumes, a society of emulation and agriculture, a departmental museum, a botanical garden, and several gratuitous courses of instruction in different departments of science and art. Six high roads meet here, besides the railway, which on this place runs a branch line to Besançon. The celebrated astronomer Lalande was a native of Bourg. Adjoining Bourg is the church of Brou, a vast edifice, begun in 1511, and containing some fine tombs. There is attached to it a diocesan seminary, with 140 scholars. Bourg is very ancient, being supposed by De Thou to occupy the site of the Forum Segusianorum of the Romans; but according to D'Anville, Feurs on the Loire is identical with the Forum Segusianorum. After being long subject to the house of Savoy, Bourg was united to France in 1601.

BOURG, or **BOURG-SUR-GIRONDE**, a town of France, dép. Gironde, cap. cant., on the Dordogne, near its confluence with the Garonne, 15 m.

N. Bordeaux. Pop. 2,781 in 1861. It has a small port, where the corn, wine, and other products of the environs, are shipped.

BOURGANEUF, a town of France, dép. Creuse, cap. arrond., agreeably situated on the Thorion, 18 m. SSW. Gueret. Pop. 8,226 in 1861. It has two porcelain-works, and a paper manufactory. This town was, for a considerable period, the residence of Zizim, or Djem, the younger brother of Bayazid II., emperor of the Turks, who was confined in it and other places in France, in consequence of a dishonourable treaty negotiated in 1482 between Bayazid and Pierre d'Aubusson, grand master of the Knights of St. John, lord of Bourgneuf, who had given Zizim a safe conduct. A large tower, in which the latter is said to have been confined, still exists. Having been liberated from his imprisonment in this place, the unfortunate prince was carried to Italy in 1487, where he is said to have been poisoned in 1495, by an agent of his brother and the infamous Pope Alexander VI.

BOURGAS, or **BOURGHAS**, a sea-port town of Turkey in Europe, Roumelia, on the Black Sea, at the bottom of the gulf of the same name, 70 m. NE. Adrianople; lat. 42° 29' 20" N., long. 27° 28' E. Pop. 6,000. It is built on a promontory of a moderate height, and has a neat clean appearance. Its fortress is in ruins. It has a celebrated manufactory of pottery. 'A fine clay is found in the neighbourhood, which is formed into pipe bowls, cups, and other utensils. These are unglazed, but highly polished, and ornamented with gilding. In this state they are exposed for sale in the shops of the bazar, which forms the principal street of the town; and as these shops are matted, and kept clean and neat, the whole has a rich and showy appearance. They pride themselves on this little manufacture, and sell it proportionally dear.' (Walsh's Journey, p. 120, 4th ed.) The town has also some trade in corn, wine, butter, cheese, iron, and other productions of the contiguous country. The Gulf of Bourgas is open to the E.: the anchorage is to the S. of the town, and has a depth of from 12 to 5 fathoms.

BOURG-DE-PE'AGE, a town of France, dép. Drôme, cap. cant., on the Isère, 10 m. NE. Valence, Pop. 4,264 in 1861. The river separates it from Romans, of which it is properly a suburb. It is neat and well built; and has manufactures of hats and coarse silk, with dye-works, rope-works, and tanneries. (See ROMANS.)

BOURG-D'OYSANS, a town of France, dép. Isère, cap. cant., on the Rive, near where it falls into the Romanche, in a deep valley at the bottom of a steep hill, 18 m. SE. Grenoble. Pop. 2,796 in 1861. The town principally consists of two long streets, with ill-built houses, many of which have their windows fitted up with oiled paper instead of glass. The valley in which the town is situated seems to be on all sides enclosed by mountains, and was for a while completely submerged and formed into a deep extensive lake. This inundation was occasioned by the course of the Romanche having been obstructed, in the 11th century, at the point where it escapes from the valley, by rubbish brought down from the adjoining mountains. This natural mound, having been gradually undermined, at length gave way, and the waters of the lake made their escape on the 15th Sept., 1219, sweeping all before them as far as Grenoble, which was laid under water.

BOURGES (an. *Avricum*), a city of France, dép. Cher, of which it is the cap., in an extensive plain at the confluence of the Auron and the Evre, 124 m. S. Paris, on the railway from Orleans to Lyons. Pop. 28,064 in 1861. The town is agreeably situated on the declivity of a hill, and is

surrounded by a thick wall flanked at regular distances with lofty towers; but the houses are mean-looking, being low and having their gables to the streets. Large tracts, occupied by gardens, nurseries, and promenades, are enclosed within the walls, so that the streets have a deserted aspect, though less so at present than formerly, the population having increased rapidly during the last ten years. Bourges contains some fine old public buildings. At the head of these is the cathedral, one of the noblest Gothic edifices in France, begun in 845, but not finished for some centuries afterwards. It is 348 ft. in length, by 123 in breadth, and has several towers, the highest of which has an elevation of 221 ft. The palace of the archbishop is also a fine edifice; its garden, laid out by Le Nôtre, has an obelisk in honour of the Duc de Charost. The Hôtel de Ville, built by Jacques Cœur, famous alike for his skill and success as a merchant and financier, his immense wealth, and the injustice of which he was the victim, is a splendid Gothic mansion, that cost a vast sum. Besides the mayoralty, it furnishes accommodation for the courts of law. The prisons are built on the ruins of the ancient palace of the ducs de Berri; and the remains of the old tower that formerly commanded the town, and which was demolished in 1651, serve to enclose the courts of the prison. There are also the Hôtel de Prefecture, formerly the Hôtel de l'Intendance, barracks, a small but elegant theatre, a college, two large hospitals, and a public library with 13,000 volumes. Bourges is the seat of an archbishopric, of tribunals of primary jurisdiction and commerce, of a royal college with about 240 pupils, a primary normal school, a diocesan seminary with above 100 pupils, and a secondary ecclesiastical school; it has also a society of agriculture, commerce, and arts; a course of geometry and mechanics applied to the arts, and a school of midwifery. It has manufactures of fine and coarse cloths, and hosiery, and its cutlery has been long in high estimation. There are in the town two mineral springs.

Bourges was formerly the seat of a celebrated university established by Louis XI. in 1463; but this having been suppressed at the Revolution, its place has been supplied by the royal college already alluded to. Louis XI. was born in this town; and it is also the birthplace of the celebrated preacher Bourdaloue, Jacques Cœur, and other distinguished persons.

To mark his respect for his native place, Louis XI. not only gave it a university, but also conferred on its mayors and magistrates the privilege of nobility. This, however, was anything but an advantage, inasmuch as it served only to fill the town with poor gentlemen, and to discourage manufactures and commerce. The clergy were also exceedingly numerous. But most of the religious establishments were suppressed at the revolution, when the privileges and distinctions of the nobility and gentry were also abolished.

Bourges is one of the most ancient cities of France. It was taken by Caesar, anno 52 B.C., and was for 475 years the capital of Aquitaine. It has suffered much at different periods from war, fire, and pestilence. Several councils have been held in it; and here, in 1483, the ecclesiastical constitution, denominated the Pragmatic Sanction, was accepted by the French clergy.

BOURGNEUF, a sea-port town of France, *dép.* Loire Inférieure, *cap. cant.*, 28 m. SW. Nantes. Pop. 2,893 in 1861. The port dries at low water; and the bay, which is extensive, is gradually filling up with sand. A branch line of railway connects the town with Nantes and Bourbon-Vendée.

There were formerly in the vicinity very extensive salt marshes, the produce of which was largely exported; but these, though still very considerable, are now materially diminished. There are on the coast large beds of oysters.

BOURGOIN (an. *Bergusium*), a town of France, *dép.* Isère, *cap. cant.*, on the Bourbre, in a fine situation, surrounded by beautiful hills, 9 m. W. La Tour-du-Pin. Pop. 4,851 in 1861. The town is neat and well built; has a tribunal of original jurisdiction, and manufactures of calicoes, with paper-mills and flour-mills. It is favourably situated for commerce, being traversed by the railway from Grenoble to Lyons.

BOURG-ST.-ANDEOL, a town of France, *dép.* Ardèche, in an agreeable situation on the Rhone, 9 m. S. Viviers. Pop. 4,687 in 1861. The town has several good buildings, and neat well-kept streets; a quay along the river, and a handsome suspension bridge over it, with some trade in corn, wine, and silk. It is named from St. Andeol, who suffered martyrdom in the Vivarais in the beginning of the 3rd century. Within a short distance of the town is a remarkable monument of antiquity, sculptured on the face of a rock, but now a good deal defaced. It has been very variously interpreted; some antiquaries having supposed it to be Diana in chase of a stag, and others that it represents a sacrifice in honour of the god Mithras.

BOURGUEIL, a town of France, *dép.* Indre-et-Loire, *cap. cant.*, in a fine valley on the Douç, 9 m. NNW. Chinon. Pop. 8,416 in 1861. It has a communal college, and is surrounded by fruitful gardens, where anise, coriander, liquorice, and other plants, are cultivated to such an extent as to supply materials for a pretty extensive trade. Its vicinity also produces fine red wine.

BOURLLOS, or BOORLOS, a lake or lagoon of Egypt, between the Damietta and Rosetta branches of the Nile, parallel to the Mediterranean, from which it is everywhere separated by a narrow neck of land, except at one point where it communicates with the sea by a narrow channel, anciently the Sibbenitic mouth of the Nile. It is about 38 m. in length, and 17 m. in its greatest breadth. It is connected with the Nile by several canals; and is mostly shallow and marshy, being navigable only along its N. shore.

BOURN, a par. and town of England, co. Lincoln, parts of Kesteven, wapentake Aveland. 91 m. N. London. Area, 8,190 acres. Pop. of par., 1821, 2,242; 1831, 2,589; 1861, 3,780. Pop. of town, 8,060 in 1861. Bourn is situated in a level district adjacent to the fens, the town consisting chiefly of one long street of well-built modern houses: the church is the remaining portion of a much larger structure, in the Norman style with 2 towers. There are Baptist and Wesleyan chapels; an endowed free school for 30 children; 2 almshouses, one supporting 6 old men, the other 6 women; and a town hall, a handsome modern edifice, on the site of one built by Lord Burleigh in the reign of Elizabeth; it has a market-place under. The weekly market is on Saturday. Annual fairs are held April 7, May 7, and Oct. 29. A navigable canal extends from the town to Spalding and Boston, by which coal, timber, and other commodities are supplied. The Great Northern railway also has a station here. The chief trade of the place is in leather and wool. There are several large tan-yards. Petty sessions for the parts of Kesteven are also held in the town, and it is a polling place for the district and Holland. The name is derived from a small stream of remarkably pure water, which gushes from a source near Bourn. Roman coins

and tessellated pavements have been found on the site; trenches and mounds of a Saxon castle are traceable: a priory of Augustine monks was founded in Wm. II.'s reign, whose revenue, at the general suppression, was 197l. 17s. 5d. Wm. Cecil, Lord Burleigh (Elizabeth's minister), was born in this town in 1520. Dr. Dodd, once celebrated as a popular preacher, but now principally remembered by his disgraceful death, was also a native of Bourn.

BOURTANG, a fortified village of the Netherlands, prov. Groningen, in the extensive morass of the same name, 81 m. ESE. Groningen. The morass, though it increases its strength, renders it unhealthy. Pop. 360 in 1861. The place was taken by the Spaniards in 1593, and by the French in 1795.

BOUSSA, a city of Interior Africa, and cap. of a prov. of the same name, on an isl. of the Niger; lat. 10° 14' N., long. 6° 11' E. Pop. according to Clapperton, 10,000 or 12,000; but, according to Lander, 16,000 or 18,000. The country in the neighbourhood is bold and rocky, which renders Bousa a place of considerable strength, for its walls (which are tolerably well built, and kept in good repair) extend to, and are united with, the two extremities of a rocky precipice which skirts the W. branch of the enclosing river. The houses are, however, built in detached patches, and do not occupy more than a tenth part of the walled area, presenting the appearance of several small villages, rather than of one continuous town. The prov. of Bousa extends about 50 m. N. of the river, and is about the same length from N. to S., the city lying about 15 m. from its S. extremity. The soil is very fertile, especially that of the isl. producing corn, yams, cotton, rice, timber trees, and other African vegetation, in great abundance: it also abounds in the usual African animals; elephants, hippopotami, lions, and tigers. Bousa is considered, politically, as part of the great kingdom of Borgoo; but it appears as if the different states were perfectly independent of each other, though all speaking the same language; at all events, the communications of the Sultan of Bousa with Clapperton and Lander seem to have had no reference to any controlling power. Of the Borgoo states, Bousa is, if not the largest, the most populous and most powerful. (Clapperton's 2nd Exped. pp. 96-106; Lander's Records, i. 141-143.)

Bousa possesses a melancholy interest from its being the spot where the enterprising Mungo Park met his death. After his first successful expedition in the service of the African Association, that adventurous traveller was employed by government to complete his own partial discovery of the course of the Niger. This commission he did not live to effect; after traversing a far larger portion of Africa than had before been traversed by any European, his boat was attacked by a native army at this place, where the river is shut in by two high rocks, leaving barely passage room for the current, *as through a door*. (Adami Fatouma's Journal, p. 214.) Assailed from the top of these rocks, Park defended himself for a long while, throwing all his provisions overboard to lighten his boat; till, finding all hope of successful resistance at an end, he, with his remaining companions, leaped into the water, in a last attempt to escape by swimming, and was drowned, or, as is more probable, dashed to pieces by the missiles hurled down upon him. The boat subsequently drifted on a reef of sunken rocks, not half a stone's throw from Bousa; and a slave of Park, the only living remnant of his unfortunate expedition, was made prisoner. The cause of this murderous

attack is represented by Isaacco and Adami Fatouma, Park's native friends, to have been owing to the knavery of a chief, who, secreting the presents entrusted to him by Park for the king, excited the indignation of the latter, by telling him, 'the white men had left nothing for him.' The explanation given to Lander on the spot, twenty years later, however, was, that the natives took the adventurers for a party of Fellatahs, which nation had just then commenced that series of usurpations which they have since carried to an extreme height. Be this as it may, the destruction of the traveller was signalled by feastings and rejoicings; but before the revelries were ended, it so chanced that an infectious disorder broke out among the Bousians, sweeping off the sultan and a great number of his subjects, among whom, it is reported, the murderers of the party were included. The effect of this upon a superstitious people may be conceived; prayers and sacrifices were offered to the white man's god, and an expression grew into use among the surrounding nations, of which subsequent travellers have felt the full benefit, '*Do not hurt the white men, unless you would perish like the people of Bousa.*' The Bousians themselves share fully in this feeling; they are overwhelmed with shame at a recurrence to the subject, and plead their youth at the time, or their personal innocence, without attempting the slightest exculpation of their fathers. (Park's Journal; Lander's Records, i. 144-9.)

BOUSSAC, a town of France, dép. Creuse, cap. arrond., on a steep rock, near the confluence of the Veron, and the Little Creuse, 21 m. NE. Gueret, on the railway from Moulins to Limoges. Pop. 995 in 1861. Boussac contains fewer inhabitants than the capital of any other arrondissement in France. It stands on a rock, and is almost inaccessible to carriages; surrounded with walls flanked with bastions, commanded by an old embattled castle, from which the view extends along a defile formed by arid and wild mountains. The town is as gloomy a residence as can well be imagined.

BOUXWILLER, or **BUSCHWEILER**, a town of France, dép. Bas Rhin, cap. cant., near the Moder, surrounded by mountains and forests, 20 m. NW. Strasburg. Pop. 3,825 in 1861. It is commanded by a fine old Gothic castle, and has manufactures of cotton, linen, arms, and braziers' ware, with breweries and bleachfields.

BOVA, an inland town of Southern Italy, prov. Reggio, cap. cant., on a mountain, 17 m. ESE. Reggio. Pop. 4,020 in 1862. This town suffered severely from an earthquake in 1783, but was rebuilt in better taste under the patronage of Ferdinand IV. It is the seat of a bishopric; has a cathedral, and several churches, a seminary, a hospital, and 2 *monte-de-piété*.

This, as well as several other towns in the Neapolitan states, is believed to have been founded, or at all events to have been occupied, by fugitives flying from Epirus and the Morea to escape the cruelty of the Turks. The foundation of Bova is ascribed to the great immigration which took place in 1477, when John Castriot, son of the famous George Castriot, or Scanderbeg, was expelled from his hereditary dominions by the Turkish conqueror, Mahomet II. At later periods similar immigrations took place from Corona and Maina. The immigrants and their descendants have continued to be a distinct race, and have preserved the language and dress, though not the religion, of their forefathers. They occupy several towns and villages in different parts of the kingdom, their total number being at present supposed to amount to about 52,000.

BOVEY TRACEY, a par. and town of England, co. Devon, hund. Teignbridge, 166 m. SW. by W. London. Area 6,480 acres. Pop. of par., 1821, 1,685; 1831, 1,697, and 2,080 in 1861. The town stands on the slope of a hill, at the base of which the Bovey flows, and is crossed by an ancient bridge of three arches. There is one main street, which branches off at the ancient market-place like a Y, one part continuing up the ascent, the other extending to the bridge. There are a few respectable modern houses, but the greater part are ancient, and meanly built. The church is a Gothic structure, with a good tower, at the E. end of the town; there are also Baptist and Wesleyan chapels, and an endowed free school for twenty-four children. Annual cattle fairs are held on Easter Mon., Holy Thurs., 1st Thurs. July, 1st Thurs. Nov. The market (granted in 1259) has been discontinued within the present century. There are two potteries, which employ many of the inhabitants; the remainder are engaged in agriculture; serge weaving and wool combing were once carried on to a considerable extent, and have become extinct only within a recent period. A portreeve and bailiff are annually appointed at a court leet held by the lord of the manor.

The Bovey heathfield, extending at the base of the town, is a low moory tract, between 7 and 8 m. in circ., surrounded by hills which open to the SE., in which direction the Teign flows after being joined by the Bovey. The granite hills on the outskirts of Dartmoor rise on the W. side, and the green sand range of Haldon on the E. The Bovey coal and clay formations traverse this plain in a SE. direction, their outcrop being at the foot of the hill on which the town stands. There are seven beds of lignite, in all forming continuous strata of about 70 ft. in thickness, and dipping at an angle of 23 ft. at the part where they are worked for the use of the pottery, which stands on the spot, and which is almost the only purpose to which the fuel is appropriated, the imperfect combustion and large proportion of ashes rendering it unavailable for general purposes, though occasionally used in the cottages of the neighbouring poor. The clay beds overlie the lignite: there are five in all, running parallel with each other, and alternating with beds of sand and gravel; the four western beds are potter's clay; the other pipe clay: shafts are sunk on and through them, at intervals, for 6 or 7 m. along their course, at such parts as are found sufficiently pure for the market; they vary in depth from 40 to 90 ft., the lignite being always arrived at in sinking through the four western beds, and a fine sand under the eastern one. From 50,000 to 60,000 tons of this clay are shipped annually at the port of Teignmouth for the Staffordshire potteries, the greater portion of which is excavated in the parish of Kingsteinton, and conveyed thither by the Stover Canal, formed through this inland basin, and locking into the Teign, about 8 m. above the place of shipment. This canal effectually drained the greater part of what had previously been an unhealthy morass, and fitted it for cultivation; a railway from the Haytor granite quarries traverses the heathfield, and terminates at the head of it: both were creations of the Templar family, whose mansion and property have since been transferred to the Duke of Somerset.

BOVINO (an. *Vibinam*), a town of Southern Italy, prov. Foggia, Capitanata, cap. distr., on the declivity of a mountain, watered by the Cervo, 19 m. SSW. Foggia. Pop. 6,790 in 1862. It is fortified, is the seat of a bishopric, and the residence of a judge of primary jurisdiction; it has a cathedral, two parish churches, and several

convents. A battle took place near this town in 1784, between the Spaniards and the Imperialists, in which the former were defeated.

BOXTEL, a village of the Netherlands, prov. Brabant, on the Dommel, 7 m. S. Bois-le-Duc. Pop. 4,205 in 1861. Here was fought, on the 14th Aug., 1794, an obstinate action between the French and the allied British and Dutch troops, under the command of the Duke of York. The latter were defeated with considerable loss, and obliged to retire behind the Maese.

BOYLE, an inl. town of Ireland, co. Roscommon, prov. Connaught, on the Boyle, 94 m. WNW. Dublin, on the Midland Great Western railway. Pop. 3,433 in 1831, and 3,098 in 1861. The census of 1861 gave 160 males and 201 females as belonging to the Established Church, and 1,268 male with 1,375 female Roman Catholics; the rest Presbyterians and Methodists. Boyle is divided by the river into two portions, which are connected by a fine modern bridge; and there are two other bridges near the town. The public buildings are the parish church, two Rom. Cath. chapels, and Baptist and Methodist meeting-houses; a new market-house, a lecture-room, and large barracks. It is a constabulary station; and has a dispensary, bridewell, savings' bank, and loan fund. The chief articles of trade, which is wholly carried on by land carriage, are grain, butter, and flax: some coarse woollens are manufactured. The butter-market is on Mondays, but the principal market-day is Saturday: fairs on March 6, April 3, May 9 and 30, July 9 and 25, Aug. 16, Oct. 1, and Nov. 25.

The corporation, under a charter granted by James I., in 1613, consists of the borough-master, twelve burgesses, and an indefinite number of freemen. It returned two mem. to the Irish H. of C. until the Union, when it was disfranchised. General sessions are held every nine months, and petty sessions on Mondays. A senechal's court in the town has jurisdiction in several adjoining baronies, but none in the borough. Branches of the Belfast and Agricultural banks were opened here in 1835 and 1836.

BOYNE, a river of Ireland, which has its source in the bog of Allen, near Carberry, in Kildare, 225 ft. above the level of the sea. It flows NE. by Trim, Navan, and Slane, to Tulloghallen, whence it follows an E. course to Drogheda, uniting with the sea about 2 m. lower down. The bar at its mouth has only 2 ft. water at low spring-ebbs, and from 9 to 10 ft. at high water: hence only the smaller class of vessels can come up to Drogheda. It has been rendered navigable for barges as far as Navan.

The Boyne will be ever memorable in British history for the important victory gained on its banks, about 8 m. above Drogheda, on the 1st of July, 1690, by the forces under the command of William III., over those of James II. This victory, by securing the triumph of the liberal principles of government established at the Revolution, may be said to have been one of the causes of the subsequent progress of the British empire in wealth, power, and population. In 1786, an obelisk, 150 ft. in height, was erected in commemoration of this great event, on the point facing the ford at Oldbridge, 2 m. W. Drogheda, where King William was wounded in the arm on the evening previous to the battle.

BRA, a town of Northern Italy, prov. Caneva, cap. mand., near the N. bank of the Stura, 22 m. N. Mondovì. Pop. 12,946 in 1862. It has three parish churches, a hospital, with fabrics of silk and linen, and a considerable trade in corn and cotton. It is reckoned particularly healthy.

BRABANT, N. and S., provinces of the low countries, the first making part of the kingdom of the Netherlands, and the latter of that of Belgium, which see.

BRACCIANO, a town (an. *Sabate*) and lake (an. *Lacus Sabatinus*) of Central Italy, 25 m. N. Rome. Pop. 2,500 in 1862. The town is situated on the W. side of the lake, is well built, has a flourishing paper manufactory, and an appearance of prosperity. It has a magnificent feudal castle belonging to the Torlonia family, now dukes of Bracciano.

The lake is nearly circular; its circumference, without following all the windings of the shore, being about 20 m. It is not generally deep, but is well stocked with fish. The Monte Rocca Romana, covered with wood, rises on the NE. side of the lake, and it is in most parts bordered by hills. Besides Bracciano, it has on its margin Trivignano (an. *Trebonianum*), Anguillara (an. *Angulara*), Vicarello (an. *Vicus Aurelii*), San Stefano, near which are the ruins of several Roman villas, &c. It gives rise to the river Arone (an. *Aro*), which falls into the sea about 8 m. N. from the mouth of the Tiber. The scenery round the lake is of the most pleasing and sylvan kind.

BRACKLEY, a bor. and town of England, co. Northampton, hund. King's Sutton, 56 m. NW. London, on the London and North Western railway. Pop. 2,239 in 1861. The town stands on a slope, on the N. bank of the Ouse, which is here crossed by a two-arched bridge. Houses mostly of unhewn stone. There are two churches of great antiquity; a national school; almshouses founded in 1668; and a good town-hall. A weekly market is held on Wednesday, and an annual fair on St. Andrew's day. Under a charter of 2 James II. it had a mayor, seven aldermen, and 26 capital burgesses; and these, until the passing of the Reform Act, when it was disfranchised, had the exclusive privilege of returning two mem. to the H. of C. The charter authorised courts of record and of quarter sessions, but they have long been disused. The borough comprises two distinct parishes, only ecclesiastically united, Brackley St. James, and Brackley St. Peter. It is the union town of 80 parishes.

BRADFORD, a par., market town, and par. and municipal bor. of England, W. riding co. York, 31 m. W. by S. York, and 8½ m. W. Leeds, 183 m. NNW. London by road, 196 m. by Great Northern railway, and 212½ m. by the Midland railway. The par. contains 33,710 acres, and had, in 1841, 105,257 inhab., and 156,053 in 1861. The township of Bradford had, in 1801, a pop. of 6,898; in 1821, of 13,064; in 1841, of 34,560; and 1861, of 48,646. But in addition to the township of Bradford, the townships of Manningham, Bowling and Horton, including the Hamlets of Great and Little Horton, are included in the par. and municipal bor., which had, in 1841, a pop. of 66,508; and in 1861, of 106,218.

Bradford is situated on an affluent of the Aire, at the junction of three extensive valleys. Though the streets in the older parts be in general narrow, those of a more recent date, which are by far the most extensive, are sufficiently broad, and they are all well paved and lighted. The town is well supplied with water, brought from a distance of upwards of 20 miles. Houses wholly of stone, and well supplied with water. The town has a thriving appearance, indicative of its highly flourishing condition. The parish church of St. Peter is a structure in the pointed style of architecture, built in the reign of Henry VI.; there are 17 other churches. The Wesleyan and Primitive Methodists, Unitarians, Independents, Baptists, Presby-

terians, Roman Catholics, and Society of Friends, have all places of worship. A free grammar-school, founded in the reign of Edward VI., and chartered and, in part, endowed by Charles II., was rebuilt in 1830. It is open to all boys belonging to the parish, who may become candidates for exhibitions to Queen's College, Oxford. Here, also, are national schools, with Lancasterian schools, schools of industry, and infant schools. The Baptists and Independents have each a college or academical institution within ¼ m. of the town for the preparation of candidates for their respective ministries; and the Methodists have a school for the sons of their preachers at Woodhouse Grove, 4 m. distant. The Exchange, a handsome building, in which assemblies are sometimes held, has attached to it a library and news-room. A mechanics' institute, founded in 1832, has a library, reading rooms, and lecture rooms. Among the other notable buildings are—the Court-house, built in 1834, where the sessions are held; Piece Hall, 144 ft. long, for the sale of alpaca and other stuffs; St. George's Music Hall, in the Italian style, with a hall capable of accommodating 3,350 persons. There is also a fine park, called Peel Park, for public use. A dispensary is liberally supported; and there are numerous other charitable institutions. The first temperance society in England was established here.

The town was incorporated in 1847, and divided into 8 wards, governed by a mayor, 14 aldermen, and 42 councillors. The parliamentary and municipal bounds are co-extensive. The borough income was 9,698*l.* in 1861. The amount assessed to property tax, in 1861, was 480,021*l.*, and the net rateable value 290,919*l.* The Reform Act made Bradford a par. bor., and conferred on it for the first time the privilege of returning two mem. to the H. of C. The number of registered electors, in 1861, was 3,880. Bradford is also a polling place for the West Riding of Yorkshire.

The present importance and rapid growth of Bradford are wholly owing to the spirit and success with which the inhabs. have engaged in manufacturing industry. The production of worsted yarn and stuffs constitutes the staple business of the town. Norwich was formerly the great seat of the worsted manufacture, which, indeed, is supposed to have derived its name from the par. of Worsted in Norfolk, into which it had been early introduced. But the superior facilities for the prosecution of the manufacture enjoyed by Bradford, chiefly in consequence of the unlimited command of coal, have given it, in this respect, a decided advantage over Norwich.

There were in the par. of Bradford, and principally in the town, in 1861, 156 worsted, woollen, and cotton mills. Large iron foundries are established at Bowling and Low Moor. At Saltaire, on the Aire, is the extensive factory of Messrs. Salt, in which above 4,000 hands are employed. The entire par. of Bradford is very densely peopled, and along all the principal roads there is an almost uninterrupted succession of towns and villages. Besides the worsted and woollen trades, which are the principal employments, and others more recently introduced, the iron trade has existed from time immemorial, as is proved by the discovery of a number of Roman coins, in the midst of a mass of scoriae, the refuse of an ancient bloomery in the neighbourhood of the town. The supply of ore is abundant; but the works, though considerable, are not so extensive as might, perhaps, have been anticipated. The command of unlimited supplies of coal has, as stated above, been one of the principal causes of the rapid progress of the manufactures of the town. This

progress has, also, been greatly promoted by the facility of communication with the ports on the E. and W. coasts of the kingdom, by the Liverpool and Leeds canal, a branch from which is carried into the town; and by the network of railways, which connect Bradford with all parts of the country.

A festival, numerous attended, and celebrated with much gaiety, is held at Bradford every seventh year, in honour of Bishop Blaise, said to be the inventor of wool-combing. Markets are held on Thursdays; fairs on March 3rd, 4th, July 17th, 18th, 19th, and Dec. 9th, 10th, 11th; the last is a great mart for pigs. The banks are the Bradford Banking Company, Bradford District Bank, Bradford Commercial Banking Company, branches of the Leeds and W. Riding and of the Yorkshire banks, a private banking house, and a savings' bank. A custom-house and inland bonding warehouse have been established here under the provisions of the Customs Act of 1860. The customs revenue, in 1862, amounted to 32,710*l*.

BRADFORD (GREAT), or BRADFORD-ON-AVON, a par. and town of England, co. Wilts, hund. Bradford, on the Avon, 93 m. W. by S. London by road, and 109 m. by Great Western railway and branch line. Pop. of town 4,291, and of parish 8,082 in 1861. The river divides the town into 2 parts (called the New, and Old towns), and is crossed by 2 bridges, one ancient, with 9 arches; the other modern, with 4. The old town consists chiefly of 3 streets, each above the other, on the slope and brow of a hill, rising abruptly from the N. bank; most of the streets are very narrow, but in this respect many improvements have been made within a recent period. The houses are all of stone, and many of them very respectable structures. The church is an ancient building at the foot of the hill. Six of the principal sects of dissenters have places of worship in the town; there is a charity school for 60 boys, founded in 1712, and 2 sets of almshouses, one for men, one for women. A weekly market is held on Saturday, and an annual fair on Trinity Monday. There is also a cattle fair at Bradfordleigh, a hamlet in the par., the day following that of St. Bartholomew. The chief manufactures of Bradford are fine broad-cloths and kerseymeres—for these it has been noted for a very long period. The stone quarries in Winsley tithing employ above 100 men. It enjoys an extensive water communication with the towns to the E. and W., by means of the Avon and Kennet Canal. A court of requests for debts under 5*l*. is held every third Tuesday: its jurisdiction comprises 3 adjoining hundreds, and it is held on the intermediate Tuesdays, at Trowbridge and Melksham. Bradford is a union town, under the Poor Law Act. The area of the whole parish, 11,740 acres, comprising, beside the town, 4 chapelries and 1 tithing. There is much picturesque scenery along the windings of the river and the dells of its wooded hills, and many fine old mansions. The town must have been of some consequence in the Saxon period, for St. Dunstan was elected bishop of Worcester at a synod held in it. Bradford sent members to one parliament in Edward I.'s reign, but never since; nor is there any record of its having ever been incorporated.

BRADING, a par. and marit. bor. town of England, co. Hants, div. Isle of Wight, liberty E. Medina, 73 m. SW. London. Pop. of parish 3,709 in 1861. The town is situated at the head of Brading Haven, at the E. extremity of the island, and consists of one long street of irregular buildings. The church is said to have been built in 704, but it must have undergone extensive alterations and repairs. There are also two dissenting chapels, a national school for 60 children, and a

small town-hall, under which is a market-place, but the market has ceased to be held. There are still annual fairs, May 1, September 21. There is a quay for the accommodation of small vessels, the place being approachable by such at high water; but the tract which forms the estuary (about 900 acres) is uncovered at every tide. An attempt to embank it, and shut out the sea, was made by Sir H. Middleton (the projector of the New River), but unsuccessfully. The town was incorporated, and a market and fair granted in 11 Edw. I.; there was another in 6 Edw. VI., under which the town was governed by two bailiffs and two magistrates, the former elected annually; the latter were the bailiffs of the preceding year.

BRADNINCH, a par and bor. of England, co. Devon, hund. Hayridge; 150 m. W. by S. London. Pop. of parish 1,796 in 1861; area 4,820 acres. The town is pleasantly situated on an eminence, surrounded by higher hills, except on the S., and consists, for the most part, of a collection of neat, thatched cottages. The church is an ancient structure; and there is a guildhall, with a gaol under, built subsequently to a fire that nearly destroyed the place a few years since. It once had a considerable woollen trade, but this has ceased, and its ancient weekly market has been discontinued. There are still two annual fairs held, May 6 and Oct. 2. It had a charter of incorporation, granted by Reginald, Earl of Cornwall, which was renewed and extended by James I. and James II.; under it were appointed a mayor, recorder, 12 masters, 24 inferior burgesses, &c.; and courts of quarter sessions and record were held, which have been abolished by the Municipal Reform Act. It returned 2 mem. to the H. of C. from the reign of Edw. II. to that of Henry VII., when inability to pay their wages was pleaded, and admitted, on paying a fine of 5 marks.

BRAGA (an. *Augusta Bracara*), a city of Portugal, cap. prov. Entre Douro e Minho, and of the comarca of the same name, on a hill in the middle of a large and fertile plain, between the Cavado and the Dieste, 32 m. NNE. Oporto, lat. 41° 42' N., long. 8° 20' W. Pop. 17,152 in 1858. The city is defended by a citadel, and is surrounded by walls flanked with towers. The streets are rather narrow, and the houses old: it is the seat of an archbishopric, and has a large cathedral, several parish churches and convents, an archiepiscopal palace and seminaries, and seventy-eight fountains, some of which are highly ornamented. It has great numbers of silversmiths, harness-makers, and hatters, who supply with their wares all the fairs in the adjoining Portuguese districts, as well as most of those in Galicia in Spain.

Braga is a very ancient city, its foundation being ascribed to the Carthaginians. Down to a recent period it had the ruins of a Roman amphitheatre and aqueduct, but these are now nearly obliterated, and it possesses few memorials of its ancient grandeur, except some coins, found in the vicinity, and some Roman millstones. About 1½ m. E. from the city, on a hill, is the renowned sanctuary *do Senhor Jesus do Monte*, annually resorted to by crowds of pilgrims.

BRAGANZA, a town of Portugal, prov. Trás-os-Montes, cap. comarca, in a fertile plain, on the Ferrenza, 35 m. NW. Miranda. Pop. 5,250 in 1858. The town is partially fortified, has a good citadel, is the seat of a bishopric, has two churches, a college, and some manufactures of silk and velvet. It was erected into a duchy in 1442; and in 1640, John II., 8th duke of Braganza, ascended the Portuguese throne under the title of John IV. His descendants continue to enjoy the crown of Portugal, and have also acquired that of Brazil.

BRAHILOW, **BRAILOFF**, or **IBRAILA**, a town of Turkey in Europe, in Wallachia, on the left bank of the Danube, 12 m. SSW. Galacz, and about 105 m. by water from the Black Sea. Pop. estimated at 9,000. Brailoff may be said to be the sea-port of Wallachia, and in it all the foreign trade of the province centres. All vessels capable of entering the Danube may ascend to Brailoff; and its port, on one of the arms of the river, being defended by a small island from the drift ice carried down by the current in the spring, ships may winter here in perfect safety. Houses regularly built, principally from the ruins of the castle, which has been demolished; and the importance of the town having increased with the independence of the province, and the increasing commerce and navigation of the Danube, several handsome new streets and edifices have been recently erected. The warehouses are capable of containing above 800,000 chetwerts of corn. The great articles of export are the raw products of the country; including wheat, maize, and barley, with tallow, hides, beef, wool, timber, tobacco, and yellow-berries. These exports, especially corn, have lately much increased. The quality as well as the quantity of the wheat shipped from this port, and from Galacz, has also greatly improved. It was formerly, for the most part, damp, with an earthy taste and smell, originating in its being usually kept in holes in the ground; but this practice is now very generally abandoned, and the grain is shipped in comparatively good order. Tallow, which is an important article, is divided into tallow and chervise: the latter, consisting of the fat of the carcass and marrow boiled together, is in much request at Constantinople. The trade sometime since was principally managed by Greek houses; but merchants from England and other foreign countries have now established themselves here and at Galacz. (See the art. **DANUBE**, **GALACZ**, and **WALLACHIA**.)

BRAHMAPUTRA (*the son of Brahma*), vulg. **BURRAMPOOTER**, one of the largest rivers of Asia, forming the proper E. boundary of Hindostan; the peninsula beyond which should, therefore, rather be called 'India beyond the Brahmaputra,' than 'beyond the Ganges,' since the former separates two regions, for the most part unlike, not only in their topographical features, but also singularly so in the races of people who inhabit them, their religion, customs, &c. The Brahmaputra has three separate sources, viz. the Dihong, Dibong, and Lohit rivers, which unite in Upper Assam; the first has been traced by Capt. Bedford and Wilcox, and Lieut. Burlton, through the Himalaya chain to lat. 28° 15' N., and long. 95° 10' E., and is in all probability a continuation of the great San-po of Tibet. (See **SAN-PO**.) The Dihong, at the point to which Lieut. Wilcox and Burlton penetrated, was 800 ft. wide, had considerable depth, and contained many rapids; one of which being found impassable, and the adjacent country wild and difficult in the extreme, prevented the future prosecution of the survey: the Dihong carries twice as much water as the Lohit into the Brahmaputra. The Dibong is the central and smallest of the three rivers: it rises N. the Himalaya, near lat. 28° 10' N., and long. 97°, and passes through the mountains into Assam, near lat. 28° 15', and long. 96°. The Lohit, called by the Assamese 'holy stream,' and considered by the Brahmans as more especially the origin of the Brahmaputra, is formed by the union of the Taluka and Taldung, two streams rising in the high mountain region of Tibet, between lat. 28° and 29° N., and long. 97° and 98° E., which having joined, the river thence resulting takes a SW. course, penetrating the Lang-tam chain of

mountains (a continuation of the Himalaya), and passing through a remarkable basin of rocky hills, a place of pilgrimage often frequented by Brahmans, in which it is augmented by the waters of the Brahmaputra, a holy pool fabled to owe its origin to an intrigue between Brahma and the wife of a sauton. At its exit from this basin the river receives the name of Brahmaputra, and is 200 ft. broad: for the next 60 m. its course is mostly W.; 15 m. below Suddya, in lat. about 27° 50' N., and long. 95° 30' E., at a height of 1,150 (Paris) ft. above the level of the sea, the streams of the Dihong and Dibong join it. It now flows in a SW. direction through the centre of Assam, with a very variable width, since its channel is continually subdividing to enclose a prodigious number of islands, the largest of which, that of Majuli, in central Assam, is nearly 70 m. long, and 10 m. in its greatest breadth. While in Assam the Brahmaputra is said to receive as many as sixty tributary rivers. It enters Bengal in the Rungpore distr., and soon after changes its direction, flowing at first S. and SE., encircling the W. extremity of the Garrow mountains, and finally, SSW., to fall into the Bay of Bengal by a mouth 5 m. wide, in lat. 22° 50' N., long. 90° 40' E., in conjunction with the largest branch of the Ganges. The chief tributary streams it receives in Bengal are, the Soormah, Barak, and Goomty, on the left, and the Gadada, Neelcomer, Teesta, and Megna, on the right hand; the latter of which rivers, though not one-tenth part its size, communicates its own name to the Brahmaputra after their junction. The affluents of the Brahmaputra bringing down vast quantities of mud, its waters are usually extremely thick and dirty, and its surface, during the floods, is covered with foam, intermixed with logs of wood, large masses of reeds, and carcasses of men and cattle. Its rise commonly begins in April; it attains its greatest elevation at the beginning of August, towards the end of which month its inundation subsides. Some rise, but no overflow, is experienced in September and October. In Bengal it is not fordable at any season, but it is by no means so readily navigated as the Ganges; the direction of the wind, which blows for so many months contrary to the course of the latter river, is commonly coincident with the direction of the Brahmaputra, and adverse to all progress upwards. Its banks are mostly covered with jungle or marsh-land, and in many places quite destitute of tracks; and its current is so strong, that 1 m. a day against the stream is, for a canoe, considered a tolerable advance. (Ritter's *Erdkunde von Asien*, vol. iii.; Hamilton's *E. I. Gaz.* i. 286-288.)

BRAINTREE, a par. and town of England, co. Essex, hund. Hinkford, 86 m. NE. London by road, and 44½ m. by the Great Eastern railway, on which it is a station. Area 2,500 acres. Pop. of par. 4,620, and of town 4,305 in 1861. The town is built on an eminence, and consists of several narrow irregular streets, in which a few good houses, of modern date, are dispersed, but the greater part are ancient mean buildings, many of them wood: the village of Bocking, in the parish of that name, is a continuation of this town on its N. side, and consists of one long street, in which are many well-built houses. Bocking parish includes 3,800 acres, and had a pop. of 3,555 in 1861. Braintree church is a spacious Gothic structure, with a tower and spire, on the elevated site of a still older encampment. There are several dissenting chapels; an endowed school for 10 boys (in which Ray, the naturalist, was educated); and several charities: the principal one produces 850*l.* a year, which is shared by the poor of this and two adjoining parishes. A weekly market is held on Wednesday;

and two annual fairs, each lasting three days, which commence May 7 and October 2. The inhabitants were formerly engaged in woollen manufacture, but this has now become quite extinct. Braintree is mentioned in Domesday-book under the names of Raines and Branchetrea. It is a polling town for the N. division of Essex.

BRAKEL, a town of Prussia, prov. Westphalia, reg. Minden, cap. circle, on the Brucht, near its confluence with the Nette, 32 m. NNW. Cassel. Pop. 2,734 in 1861. The town has a Catholic parish church, a hospital, a workhouse, and fabrics of linen, tobacco, and a glass-work.

BRAMBER, a par. and bor. of England, co. Sussex, hund. Steyning, on the Adur, which is navigable for small vessels, 45 m. S. by W. London by road, and 53 m. by London, Brighton, and South Coast railway, on which it is a station. Pop. 119 in 1861. Bramber claims to be a bor. by prescription, and was of sufficient importance to give its name to the rape, in which it is situated. It sent 2 mem. to the H. of C. from the 23 Edw. I., with occasional omissions between that date and 7 Edw. IV.; and subsequently, without interruption, till it was disfranchised by the Reform Act; the right of election was in burghage tenure voters paying scot and lot, of which there were about 20.

BRAMPTON, a parish and market town of England, co. Cumberland, Eskdale Ward, on the Newcastle and Carlisle railway. Area of par. 16,970 acres. Pop. of par. 3,585, and of town 2,379 in 1861. The town is situated 10 m. NE. Carlisle, in a deep narrow valley. It has a town-hall, built by the Earl of Carlisle in 1817, in which courts are held for the barony of Glisland. The par. church, now in ruins, is at the village of Irthington, about 1½ m. distant; but it has a parochial chapel, built in 1789, and repaired and enlarged in 1827: it has also 4 dissenting chapels, a grammar-school, a national school, erected by the Earl of Carlisle, an infant school, and 12 almshouses for 6 old men and as many women. At the E. end of the town is the moat, a conical mount, rising 360 ft. above the level of the streets. The weaving of checks, ginghams, and other descriptions of cotton goods, on account of the Carlisle manufactures, is carried on to some extent.

BRANDENBURG, an important prov. of Prussia, consisting principally of the ancient mark or marquise of Brandenburg, having N. Mecklenburg and Pomerania, E. the provs. of Prussia and Posen, S. Silesia and the kingdom of Saxony, and W. Prussian Saxony, Anhalt, and Hanover; between 51° 10' and 53° 37' N. lat., and 11° 13' and 16° 12' E. long. Area 15,505 sq. miles; pop. 2,463,515 in 1861, of whom 2,408,100 civil inhabitants, and 55,415 military. The province is divided into two regencies and 34 circles. Principal towns, Berlin, Potsdam, Frankfort, Brandenburg, and Spandau. The province consists principally of an immense sandy plain, watered by the Oder, Spree, Havel, Warta, Netz, and other rivers, and by numerous lakes. Soil generally poor: in many parts, indeed, it consists of vast tracts of barren sand, diversified with extensive heaths and moors; but in other parts, particularly along the rivers and lakes, there is a good deal of meadow, marsh, and other comparatively rich land. Forests very extensive. Estimating the whole extent of the prov. at 15,800,000 morgen, or German acres, it is supposed to be distributed as follows:—water, 300,000 morgen; woods, 3,500,000 do.; arable lands, 6,700,000 do.; gardens, 65,000 do.; waste lands, 3,250,000 do.; buildings, roads, &c. 550,000 do. Corn of all sorts is raised. Buckwheat, however, succeeds better than any other sort of grain on the sandy

soils, and next to it rye. Potatoes are now very extensively cultivated. The other principal products are wool, hemp, and flax, tobacco, timber, and hops. Agriculture, though backward, has made great advances since 1815. The breeds of horses and sheep have been materially improved; particular attention is paid to the raising of wool, which has become a most important product. Brandenburg, in fact, produces more wool than any other province of the kingdom. With the exception of lime and gypsum, the minerals are of no importance. Manufactures were introduced by the refugees from France, subsequently to the revocation of the edict of Nantes, and are very extensive. They are principally carried on at Berlin (which see, and PRUSSIA). There are manufactures of steam-engines and agricultural implements, of woollen, silk, and cotton stuffs, of optical and mathematical instruments, and of chemical produce, besides numerous breweries, distilleries, glass-works, brick-kilns, tanneries, potash, charcoal, and lime manufactures. The internal trade of the prov. is very considerable, and is much facilitated by railways, rivers and navigable canals. The railways centre in Berlin, connecting every important town of the province. The system of water communication likewise is very complete; it owes its origin chiefly to Elector Frederick William, surnamed the Great Elector. The province of Brandenburg formed the nucleus of all the states now united in the Prussian monarchy. It was given in 1416 by Kaiser Sigismund to Frederick VI., Count of Hohenzollern and Burgrave of Nürnberg, ancestor of the present kings of Prussia.

BRANDENBURG, a town of Prussia, prov. same name, reg. Potsdam, cap. circ. W. Havelland, on the Havel, 35 m. WSW. Berlin, and 38 m. NE. Magdeburg; lat. 52° 27' N., long. 12° 32' E. Pop. 23,800 in 1861. The town has a station on the railway from Berlin to Magdeburg. The river divides it into three parts; the old town on the right, and the new on the left bank; while on an island between them is built the 'Cathedral Town,' which, from standing on piles, is also called 'Venice.' Streets of the old town narrow and crooked; but those of the new town are comparatively broad and straight; both are walled and connected by a bridge. On the island is the cathedral, a structure of the 14th century, the castle, and an equestrian academy. It has eight churches, five hospitals, a council-house, with a public library, a gymnasium, a citizens' school (*Bürger-schule*), a superior female school, with numerous elementary and charity schools; a workhouse, a theatre, and three public squares, in one of which stands the Rolandsäule, a column hewn out of a single block of stone. The fount and monument in St. Catherine's church are worthy of notice, as are also the works of art in the cathedral. There are manufactures of woollens, fustians, linens, stockings, paper, &c.; with numerous breweries, distilleries, tanneries, and some boat-building; and it has a brisk trade both by land and water. It has been several times besieged—by Henry the Fowler, Albrecht the Bear, and Gustavus Adolphus. It was the birthplace of Julius von Voss.

BRANDENBURG (NEW), a town of the grand duchy of Mecklenburg Strelitz, on a rivulet which falls into the lake Tollen, 17 m. N. by E. New Strelitz. Pop. 5,950 in 1861. It is walled, and well built; has a castle, a grammar school, schools for the sons and daughters of townspeople, a workhouse, and some woollen and cotton fabrics; but the business of distillation is the most important carried on in the town.

BRANDON, a par. and town of England, co. Suffolk, hund. Lackford; 73 m. NNE. London by

road, and 88 m. by Great Eastern railway, on which it has a station. Pop. of parish 2,218, and of town, 2,208 in 1861; area of parish, 5,570 acres. It is on the S. bank of the Little Ouse, or Brandon river, which forms the N. boundary of the county, and is here crossed by a neat stone bridge. Gun-flints are made in the town and sent to various parts of the kingdom: they are produced about a mile W. of it, from beds traversing a chalk stratum, and alternating with others of pipe-clay: many labourers are employed in quarrying these flints. There is also some traffic carried on in corn, malt, coals, and timber. In the neighbourhood are extensive rabbit warrens. Fairs are still held, Feb. 14, June 11, Nov. 11; but the market has been discontinued. There is an endowed free school. Brandon camp, a sq. earthwork in the vicinity, is supposed to be the *Bravinium* of the Romans. The Duke of Hamilton and Brandon derives his English title from this town.

BRANTOME, a town of France, dép. Dordogne, cap. cant. on the Drôme, near its confluence with the Colle, 12 m. NW. Périgueux. Pop. 2,584 in 1861. Brantôme is agreeably situated, and is a neat handsome town. The walls and ditches by which it was formerly surrounded have been demolished. It has some fabrics of woollen stuffs, hosiery, and cotton. Near the town is an abbey of the Benedictines, the foundation of which is ascribed by some to Charlemagne, and by others to Louis-le-Debonnaire. This abbey was held in *commendam* by the historian Brantôme, who retired thither after the battle of Jarnac, and composed in this retreat a part of his works.

BRAUNSBURG, a town of Prussia, prov. E. Prussia, cap. circ. on the Passarge, about 8 m. above where it falls into the Frische Haff. Pop. 10,164 in 1861. The town is very thriving, and has a station on the railway from Berlin to Königsberg. The river is navigable as far as the town by vessels of small burden, and it has some shipping, and exports corn and timber. It is the residence of the bishop of Ermeland, the seat of a royal court of justice, and has several churches, a monastery, a normal school, and four hospitals. But it derives its principal claim to notice from its seminary, the *Lyceum Hosianum*, for the education of Catholic clergymen. It is so called from its having been founded and endowed by the learned Stanislaus Hosius, bishop of Ermeland. It has six professors, and about 30 students.

BRAY, a township of England, co. Berks, hund. Bray. Pop. 2,936 in 1861. The town has acquired some celebrity in connection with the well-known 'Vicar of Bray.' It appears that the person who held the living, a vicarage, in the reigns of Henry VIII., Edward VI., Mary, and Elizabeth, was gifted with a most accommodating conscience. He commenced a Papist, then became Protestant, next Papist again, and then Protestant again. On being taxed with inconsistency, he defended himself by saying that he had always adhered to one principle, which was 'to live and die Vicar of Bray!' The well-known song represents this worthy vicar as living in the reign of Charles II. and his successors; but the above is Fuller's account of the matter (vol. i. 79, ed. 1811).

BRAY, a marit. town of Ireland, cos. Wicklow and Dublin, prov. Leinster, on the Bray or Dargle, 12 m. SE. by S. Dublin, on the railway from Dublin to Wicklow. Pop. 4,182 in 1861. The town, which takes its name from Bre, or Bree, a headland at the foot of which it stands, is divided into two portions by the river, which also separates the counties of Wicklow and Dublin. The part on the N., or Dublin side, is called Little Bray: the communication between the two divisions is

kept up by an old bridge. It has a parish church, a large and elegant Roman Catholic chapel, a Presbyterian meeting-house, and several schools, one of which, an infant school, is a spacious building; it has also a savings' bank, a loan fund, an hospital, and a dispensary. An old castle in Little Bray has been converted into a barrack. A constabulary and a coast-guard force are stationed here, and near the town is a martello tower. The town is neatly built, and is become a fashionable watering-place. It was formerly incorporated, and parliaments were held here, but its chartered privileges have fallen into desuetude. A manorial court is held monthly, and petty sessions on alternate Mondays. It manufactures small quantities of linen and coarse woollens. Markets are held on Tuesdays and Saturdays; fairs for friezes on Jan. 12, May 4, Aug. 5, and Nov. 12; and for cattle on March 1, May 1, July 1, Aug. 15, Sep. 20, and Dec. 14. The harbour is barred by a bed of shingle, which greatly obstructs the navigation. A considerable fishery of cod, haddock, and herring was formerly carried on, which has been completely annihilated. The salmon fishery has also declined.

BRAZIL, an empire of S. America, and one of the largest states in the world—very nearly the size of the whole of Europe—stretches along two thirds of the E. coast of that continent, while its superficial area occupies nearly half its whole extent. It lies between 4° 17' N. and 32° 35' S. lat., and 85° and 70° W. long. The length, from N. to S., is between 2,600 and 2,700 m., and its breadth, from E. to W., between 2,000 and 2,300 m. Its extent of coast along the Atlantic Ocean exceeds 4,000 m.; its area has been estimated at from 2,500,000 to 8,000,000 sq. m. It is bounded, S. and E., by the Atlantic Ocean; N. by the Atlantic Ocean, French, Dutch, and British Guiana, and the republic of Venezuela, and W. by the republics of Ecuador, Peru, Bolivia, and Paraguay.

A large proportion of Brazil consists of high land and mountains, and the extent of cultivated land bears but a very small proportion to that of the whole country. The subjoined table gives the area and population of the twenty provinces into which the empire is divided, according to a superficial enumeration, or rather estimate, of the year 1856:—

Provinces	Area	Population
	Geog. Sq. Miles	
Minas Geraes	11,413	1,200,000
Rio Janeiro	860	1,200,000
Bahia	6,091	1,100,000
Pernambuco	2,908	950,000
San Paulo	8,050	600,000
Ceara	1,736	385,300
Maranhao	6,759	360,000
Parahyba	1,138	209,300
Pará	54,607	207,400
Alagoas	630	204,200
Rio Grande do Sul . .	4,059	201,800
Rio Grande do Norte .	802	190,000
Sergipe	528	183,600
Goyaz	13,584	180,000
Piahy	4,597	150,400
Santa Catharina . . .	694	105,000
Matto Grosso	28,718	85,000
Parana	—	72,400
Espirito Santo	643	51,300
Amazonas	—	42,600
Total	147,624	7,677,800
or	3,100,104 English sq. miles	

According to these returns, the density of pop. is less than three per square mile, on the average. Other estimates, more recent (*Almanak Administrativo* par 1862) state the number of the popula-

tion at above 8,000,000, composed of more than 5,000,000 freemen, 2,500,000 slaves, and about 500,000 of native Indians. Large tracts of Brazil are uninhabited, or peopled only by a scattered population, and the masses of inhabitants congregate near the coast, and around the chief seaports. All the principal cities are on the coast. The harbours are among the finest in the world; and some of them are connected with the interior by large rivers, navigable for a great way inland.

The principal rivers are,—the Amazon, generally considered the largest river in the world, formed by the junction of the modern Marañon (Tunguragua) with the Ucayale, or ancient Marañon. It touches Brazil on the N. at its junction with the Madeira in about 59° W. long., and enters it at about the 57th do.; and then flowing through the prov. of Para and forming an immense estuary, it discharges itself into the Atlantic Ocean under the equator in about 50° W. long. It receives in its course through Brazil from the S. some of its principal tributaries, including the Madeira, the largest of them all, which forms a portion of the W. boundary of the empire, with the Tapajos, and the Xingu: the affluents of the Amazon from the N. in its course through Brazil are comparatively unimportant. Of the other rivers the principal are the Tocantins or Para, an immense stream formed by the junction of the Araguay (the principal branch) and Tocantins properly so called: it has its sources in the S. parts of the provs. of Matto Grosso and Goyaz, and flowing NNW. falls into the Atlantic in about 1° S. lat. and 48° W. long. At the mouth of the Para, the phenomenon of the *bore*, to which the Indians have given the name of *pororoca*, manifests itself in a very striking manner. Three days previously to the new or full moon, when the tides are highest, an immense wave, upwards of 15 ft. in perpendicular height, rushes from shore to shore with a tremendous noise, and is succeeded immediately by a second and a third, and sometimes by a fourth. The tide, instead of occupying six hours to flow, attains its greatest height in a few minutes. The roaring of the *pororoca* is heard at a distance of nearly two leagues. (Dénis, Brésil, p. 293, Paris, 1837.) The Rio San Francisco, one of the largest of the Brazilian rivers, rises in the S. part of the prov. of Minas Geraes, near the sources of the Parana. It is the only river of importance between Bahia and Pernambuco, but its navigation is interrupted by the cascade of Paolo Affonso. The Rio Grande do Sul, in the prov. of San Pedro, is another large river, as is the Parana, of La Plata, separating Brazil from Paraguay and the states of La Plata, and forming also the boundary-line between the provs. of San Paul, Matto Grosso, and Goyaz: the Rio Pardo, the Ivahy, and the Ignazu empty themselves into it.

In addition to the above, we may succinctly enumerate the Parahyba, separating the provs. of Maranhão and Piauh; the Itapicaru; the Rio Grande do Belmonte; the Rio Doce, and a host of others. Many of the rivers of Brazil, especially the Marañon, overflow their banks, and subject the country to extensive inundations. The navigation of some of the larger rivers is interrupted by falls and rapids, and the mouths of some of the smaller rivers are subject to winds and currents, which render their navigation difficult.

The lake, or rather lagoon, *Lagoa dos Patos*, in the prov. of Rio Grande do Sul, is the most extensive in Brazil. It stretches N. from Rio Grande, at its S. extremity, where it communicates with the sea, to Porto Alegre, a distance of above 145 m., being in parts about 40 m. in breadth. Though encumbered with shoals, it is navigable by vessels

of considerable burden. It receives several large rivers, so that its waters in the N. parts, or those farthest from the sea, are but slightly brackish. There are a great many other lakes in different parts of the empire, but none of them are very extensive. They are most numerous in the prov. of Para.

Physical Aspect.—The form of Brazil may be said almost to resemble that of a heart, of which the greatest diameter, from E. to W., in a straight line from Olinda to the territories claimed by Peru, may be about 80 degrees. The E. side of Brazil is traversed, from N. to S., at more or less distance from the coast, by a mountainous range, of which the average height is about 3,000 ft., known by the name of Serra do Mar, its greatest height being 4,000 ft. This range serves to divide the coast land from the high land, consisting of Campos, or tracts destitute of wood, the average height of which is about 2,500 ft. It gradually becomes lower in the direction of Paraguay, until it is lost in the low and mostly marshy plains inhabited by the Indian tribe of Guaycurus. Many geographers have fallen into the error of supposing that the prov. of Matto Grosso contains the highest mountains, and that they form a junction with the Cordilleras of Peru and Chili. But Eschwege, who resided in the country for ten years, during which period he visited the greater part of it, confutes this supposition in his *Brazilien die neue Welt* (vol. i. p. 165, Braunsch. 1890). He observes that broad and extensive plains lie between, and that the sources of the Madeira, which flows in a northerly direction towards the Amazon, and of the Paraguay, taking a southerly course towards the La Plata, are both within a few miles of each other, and that their elevation is inconsiderable. The highest range of the Brazilian mountains is that which traverses the centre of the country, and its greatest altitude is about 6,000 ft. The mountains of Brazil may be subdivided into three different ranges: 1. The coast range, or Serra do Mar, above mentioned. This is by far the most picturesque of the Brazilian chains, and in some parts approaches within 16 or 18 m. of the sea, while in others it sweeps inwards to a distance of from 120 to 140 m. At a distance, and in the vicinity of the mountains, are found ancient forests (*matto virgem*), whose giant trees and countless plants and shrubs, of luxuriant growth, so thickly interwoven as almost to defy the attempts of man to force a passage, sufficiently attest the excellence of the soil on which they grow. On crossing the Serra do Mar, we meet with a barren table-land, called Campos Geraes, with few traces of cultivation. In the valleys, gold and diamonds are frequently discovered. The Serra do Mar chain commences in the Campos de Vacaria, sinks abruptly in the direction of the Rio Doce, and loses itself completely at Bahia. The celebrated Monte Pascoal, which was seen by the early navigators, forms a part of the Serra do Mar. It is known by various names in the districts through which it runs. On the E. side it is styled Serra dos Avmores, while in the neighbourhood of Rio it is styled Serra dos Orgões. It is worthy of remark, that the plants growing in the Campos are altogether distinct from those on the other side the Serra do Mar; and the zoologist may discover quite a new race of animals, as well as birds, in this region. 2. The central chain, called in some parts Serra do Mantegueira, and in others Serra do Espinhabo, is more extensive than the former, and comprises the highest points in Brazil: viz. the Itacolumi, near Villarica; the Serra do Carassa, near Caltas Altas; and the Itambé, near Villa do Principe. This range traverses the prov. of Minas Geraes, running in its northerly course, through Bahia and Pernam-

buco, and in its southerly course, through San Paulo and Rio Grande. It is not only remarkable as comprising the highest points in the empire, but is highly interesting in a geognostical, botanical, and zoological point of view. In different parts, it bears the various local names of Serra do Lopo, Serra Sallado, Serra de San Geraldo, Serra dos Esmeraldas, and many others. 3. The Serra dos Vertentes, or the Water-separating Mountain, so called because it divides the E. tributaries of the rivers Amazon and La Plata from the river San Francisco. This chain is sometimes called the Brazilian Pyrenees. Its loftiest and most remarkable points are those of Serra do Canastra and Matto-Gorda, where, on one side, the Rio San Francisco, and on the other, the most important tributaries of the Rio Grande, take their rise; and the Pyrenees, in the province of Goyaz, where the tributaries of the Parana flow down.

Exclusive of its mountainous and hilly districts, and of its table-lands, the plains of Brazil are of vast extent; the prov. of Para, including a portion of the contiguous prov. of Matto Grosso, comprises, in fact, the whole of the lower and most level portion of the gigantic plain of the Amazon. During the inundations, large tracts of this plain are submerged. Its soil is soft, alluvial, and of the greatest fertility. It is mostly covered by immense primeval forests. There are also some very extensive plains in Maranhão and other parts of the empire. That which includes the Lagoa dos Patos extends for above 220 m. along the shore.

Soil.—The soil of Brazil is of various descriptions. It is of great fertility in some parts, but by no means throughout, and the often repeated story of the superabundant wealth of the soil in every part of the empire is decidedly erroneous. Mr. Consul Cowper, in one of his reports to the British Government, alludes to this in saying:—‘I believe the fertility of the soil of Brazil to be absurdly exaggerated. I have heard much but seen little of its extraordinary powers of production. I have travelled a great deal in this empire, and as a general rule have found along the coast a sandy unproductive soil covered with cocoanut trees and mangroves, varied occasionally, near the embouchures of rivers, by alluvial deposits, hard as a rock in summer and impassable mud in the winter; further inland, undrained valleys, forming muddy lakes in winter, and very precarious cane fields in summer; the produce of the hills, in common with that of the whole country, being a prey to that great destroyer, the ‘Formiga de Roca,’ or ‘red ant;’ and in the very interior sterile mountains and vast pasture lands, but so subject to droughts, that not only cattle, but hundreds of the population fall victims to them.’ Senhor Luiz Carvalho, Acting Inspector of Customs at Pernambuco, in a pamphlet published with a view to the recommendation of certain measures for the benefit of the agriculture and trade of the province, says:—‘Compared with the vastness of territory, in its greatest part uncultivated, our population is infinitesimal (diminutissima). Its slow natural increase, periodically checked by the visitation of scourges, droughts, yellow fever, and cholera, certainly does not satisfy either the necessities of the present or the aspirations of the future.’ The same causes, in fact, which rendered impossible the foundation in Brazil of a civilisation analogous to that which was established in Mexico, Central America, and Peru, ages before the discovery of this continent by Europeans, are still in action to-day, and in undiminished force. Notwithstanding, it would be impossible to overrate the extraordinary fertility of those vast tracts of land of which Para is the capital in the north, and

Rio de Janeiro in the south. A recent writer observes with much truth, that in estimating the physical conditions which determine civilisation, we have to look not merely at the exuberance, but also at what may be called the manageability of nature. All the operations of nature proceed here, however, on the grandest scale. Swarms of insects dispute with the labourer the possession of his field. Droughts are frequent and of long continuance. Floods in winter overrun considerable tracts of country. Latterly epidemics have swept off large numbers of the inhabitants. All these things naturally conspire to check the efforts of the cultivator, and the doubt is suggested to the mind of an observer whether any real progress is actually being made. (Report by Mr. Consul Lennon Hunt on the Trade of Pernambuco for the Year 1868. In ‘Consular Reports.’)

Climate.—The great extent of Brazil will, of course, account for a considerable variation of climate. Along the coast, the ordinary temperature is from 19° to 20° Reaumur, with some modifications, according to the localities. Thus, while the thermometer seldom rises above 20½° at Bahia, it sometimes stands as high as 26° and 27° at Rio Janeiro. Winter is severe in the S. provinces, and it even freezes at Rio Grand de San Pedro and San Catharina. The climate in the vicinity of San Paulo is usually accounted the most agreeable, and the temperature permits the growth of European fruits. The west wind, in the interior of Brazil, is unwholesome, as it passes over vast marshy forests. The sea coast, from Para to Olinda, appears to possess a similar climate to Guiana. Notwithstanding the position of Brazil between the equator and the tropics, the air, owing to the height of the greater portion of the country, is in general temperate, rather than hot. Pernambuco and a few of the other provs. suffer occasionally from drought, to which, however, the coast lands are seldom subject.

The seasons may be properly reduced to two, the rainy and the dry, although some divide them into four; viz. the spring, commencing in Sept.; the summer, in Dec.; the autumn, in March; and the winter, in June. The rainy season usually sets in about Oct. or Nov., and is preceded in some parts by fogs, thick groups of clouds, and sudden gusts of wind, as well as by occasional showers, and the temperature is also extremely variable. This season generally lasts till March. The period of its commencement and termination varies according to latitude and natural position.

Prince Maximilian observes (Reis nach Brasilien, ii. 194), that in the region of Campos Geraes, Feb., March, April, and May are usually the rainy months; June, July, Aug., and Sept. are called the cold season; and that during Oct., Nov., Dec., and Jan. the greatest heat prevails.

M. Von Langsdorff, formerly Russian consul at Rio, makes the following remark upon the seasons in Brazil, in a letter to a friend, given in Eschwege's Journal (ii. 166):—‘Winter, in this country, resembles summer in the N. of Europe; summer appears one continuous spring; while spring and autumn are unconsciously lost in winter and summer.’

Products.—The most celebrated, though far from the most important, of the natural productions of Brazil, are diamonds. They have been found in Minas Geraes, Goyaz, and Matto Grosso; but it is supposed that other provinces are furnished with these highly prized gems. Those of Minas Geraes are generally the largest. The most celebrated mines are those of Serra do Frio. These mines were not actually discovered until the government of Don Lorenzo

d'Almeida, although diamonds were known to have been in the possession of the negroes, who met with them accidentally while employed in gold-washing, and other persons ignorant of their value, long before that period. They were first brought from Brazil to Lisbon in 1728, by Bernardo da Silva Lobo. He showed them to the Dutch resident consul, who recognised them as diamonds, and informed him of his important discovery. The mines of Serra do Frio are also known by the name of the Arrayal Diamantino, or diamond district properly so called. This district is surrounded by almost inaccessible rocks, and was formerly guarded with so much vigilance that the governor of the province could not enter it without the special permission of the director of the mines.

The diamonds are sought by accumulating the cascalhao, a kind of ferruginous earth (in which the diamonds are found mixed with flints), and washing it. The former operation is generally performed during the hot season, at a time when the beds of the rivers and torrents are dry, and the diamond-sand can be easily extracted. When the wet season arrives, the operation of washing commences. It is performed in the open air, and frequently under sheds, where the action of the sun is least likely to injure the negroes. At the bottom of the shed glides a small stream, which occupies one of its sides. Seats, raised, and without backs, are arranged along the shed, in such a manner that the subaltern officers (feitores) are enabled to watch the negroes at work. One officer superintends eight negroes. Each negro works in a compartment of the shed, separated or walled off, as it were, from the others. The cascalhao to be examined is placed in troughs close to the stream, and the negroes are introduced entirely naked, excepting in times of extreme cold, when they are allowed a kind of waistcoat, but without either pockets or lining. They are furnished with an alavanca, a kind of handspike, by means of which they separate the earth from the flint, and then, taking the largest stones in their hands, they proceed to search for the diamonds. Notwithstanding the precaution of making the negroes work naked, robberies are of frequent occurrence. When a negro discovers a diamond, having first shown it to the officer, he deposits it in a large wooden vessel suspended in the middle of the shed. If any negro is fortunate enough to discover a diamond weighing 17 carats, he is purchased by the government, and receives his liberty. The discovery of a stone of less weight also confers liberty upon the finder, but with some restrictions. Various premiums are distributed, according to the value of the stone, even to a pinch of tobacco. (Dénis, Brésil, p. 345.) Notwithstanding every imaginable precaution, negroes find means to purloin diamonds, which they sell to smugglers (contrabandistas) at a very low price. The latter dispose of them chiefly at Tijuco and Villa do Principe. Work in the diamond mines is most unhealthy; it is estimated that the Brazilian mines have cost above 100,000 lives. (Klößen, Handbuch der Erdkunde. 1862. III. 640.)

Diamonds differ greatly in size. There are some so small that 16 or 20 would scarcely make a carat. It is rare that, in the course of a year, more than two or three are found weighing from 17 to 20 carats; and two years may pass without discovering one of the weight of 30 carats. The largest diamond of which we have any account was found in the Rio Abacte in 1791: it weighs 188½ carats. The administration of the diamond mines is regulated by a law of the 2nd Aug., 1771, entitled 'Regi-

mento para a Real Extração dos Diamantes do Arrayal, do Tijuco, do Sero do Frio,' consisting of 54 articles. Down to the date of this law, the right of working the diamond mines was farmed out; but from that period the government have taken it into their own hands, and they are all under the superintendence of a board, *Junta Real para a Administração dos Diamantes*.

Eachwege (Brasilien die neue Welt, i. 120) gives the following table of the weight of the diamonds extracted from the first discovery. As little is known respecting the weight of those discovered during the first ten years (from 1730 to 1740), he commences with the latter year:—

	Carats	Average per year
From 1740 to 1772 . . .	1,666,569	52,090
— 1772 — 1806 . . .	910,511½	26,876
In the years 1811, 14, 15, and 16	74,147	18,537
During the 11 years of which there are no statistical accounts to which he could gain access (i.e. from 1806 to 1822, deducting the above), and during which the produce remarkably decreased, it cannot, at an average, be estimated at more than . . .	232,000	12,000

Eachwege estimates the total value of these, at the rate of 8,000 reis the carat, to be 23,869,534,000 reis = 59,673,885 cruzadoes = 89,782,556 Prussian dollars, or 3,475,587*l*. The estimate is, probably, rather above than under the truth. According to Castelnau, whose statistics come down to 1850, the productivity of the mines continued decreasing enormously of late. So that it follows that the total value of the diamond-washings, during a period of above 100 years, was hardly equal to 18 months' export of sugar and coffee.

Gold is found in Brazil throughout the district which extends from the neighbourhood of San Paulo and Villarica, as far as the confines of the river Ytènes. The most celebrated mine is that of Congo Soco, in a beautiful valley, about 40 leagues from Villarica. It was begun to be wrought in 1740, the proprietor having in a short time amassed a splendid fortune. In consequence, however, of the want of care and activity on the part of his descendants, the mines ceased to be productive, and were disposed of, in 1825, to a company of Englishmen, known as the 'Anglo-Brazilian Mining Company,' for 70,000*l* sterling. The operations of this company extend also to other places. About Villarica gold is sometimes found in the form of powder and fine dust, in crystals, and sometimes, though rarely, in lumps. Spix and Martius (Eng. Trans. ii. 182), mention an instance of a massy piece weighing 16 lbs. having been found.

The produce of the gold mines was most considerable in the first half of last century. Towards its close, from 70 to 80 arrobas were annually smelted in Villarica; while, previously to the arrival of the English company, the quantity had dwindled down to 40. The actual produce of the entire gold and silver mines and washings in Brazil is not supposed to exceed from 1,500,000 to 1,600,000 dol. a year, being little more than adequate for the wants of the country.

Iron-ore is found in great abundance in various parts of Brazil. At Ypanema, in the prov. of Rio Grande do Sul, the ore is particularly rich. But, though known to exist, this mine was not wrought previously to 1810, when it was commenced on account of government, by a party of Swedish miners. The works have since been considerably extended; and, exclusive of the articles manufactured for government, orders have latterly been executed for private parties. But a work of this kind, carried on at the expense of government, is

rarely successful; and many private iron-works have since been established in different parts of the empire that are of greater importance than those of Ypanema. It is probable, indeed, that government will, at no distant period, cease to burden itself with the expense of the latter. Notwithstanding the multiplication of iron foundries, the quantity of iron produced is still far below the wants of the country; and, along with hardware, it is largely imported.

The working of iron mines was, for unknown, but certainly bad reasons, long prohibited by government; but that prohibition no longer exists, having been repealed soon after the arrival of the court in Brazil. As evincing the importance attached by the Brazilians to the opening of the mines, a gigantic pyramid has been erected upon the summit of the Geraesova, in commemoration of the event. In smelting and other operations, the Swedish method is practised.

Rock-salt has not hitherto been discovered in Brazil; but this deficiency is, in part at least, supplied by the numerous *salt-licks* and salt-springs that are found in different parts of the country. Salt steppes also are found, two of which are very extensive: one of these is situated partly in the prov. of Pernambuco, and partly in that of Bahia, on both sides the San Francisco, the other being near the W. boundary of the empire, in the prov. of Matto Grosso. The salt, which is found on the surface after the rains, is obtained by washing the earth and leaving the water to evaporate. Saltpetre and alum are, also, met with in various parts.

Among the other mineral productions of Brazil, may be mentioned platina and copper, found in the prov. of Minas Geraes. Precious stones abound, especially topazes, of which there are many varieties.

Vegetable Products.—Among these are sugar, coffee, cotton, cocoa, rice, tobacco, maize, wheat, manioc, bananas, ipecacuanha, ginger, yams, oranges, figs, and sarsaparilla. Of these the most important, in a commercial point of view, are sugar, cotton, and coffee, which are now, in fact, the staple products of the empire, and the culture of which is increased with almost unexampled rapidity. Sugar is principally raised in the prov. of Bahia, the soil of which is admirably suited to its growth; but it is also extensively produced in some of the other provs. The value of the sugar exported from the different parts of the empire to Great Britain amounted to 1,287,990*l.* in 1862, and to 1,162,779*l.* in 1868. The culture of cotton is of more recent growth, and its extension owing in great part to the American civil war. The exports to Great Britain, in 1862, were of the value of 1,676,741*l.*; and in 1863, of the value of 2,077,688*l.* The coffee of Brazil was formerly not liked in Europe, owing to defects in its treatment. The merit of having introduced a better system is due to Dr. Lecesne, a planter from St. Domingo, who, having established himself in the vicinity of Rio, instructed the cultivators in the most approved methods of treating the plant. The effects of this liberal conduct have been most striking. Coffee is still principally produced in the vicinity of Rio; and so rapidly has its cultivation been extended, that while its produce in 1818 only amounted to 74,215 bags, it at present averages 2,000,000. The exports to Great Britain, in 1862, amounted to 18,080,877 lbs., valued at 387,401*l.*; and in 1868 to 9,409,720 lbs., valued at 290,456*l.*

Tobacco is principally grown in the islands in the bay of Rio Janeiro, and in that of Angra dos Reis, on the lowest coast-land; it is inferior in

quality to that of the U. States. The exports of tobacco are very fluctuating. Those to Great Britain amounted to 1,798 lbs. in 1859, to 905,649 lbs. in 1862, and to 173,328 lbs. in 1868. Rice is largely cultivated in some places, and is exported; but the principal dependence of the population is on the manioc, manioc, or cassava (*Jatropha Manihot*), regarded by the Indians as a bequest from their prophet Suné, and which, on that account, has sometimes been supposed not to be indigenous. But, if connected at all with the plant, the function of the prophet was most probably confined to instructing the Indians in the mode of its use. And this, though a most essential service, was by no means an obvious one; for, in its natural state, the root of the plant, which is the only part that is made use of, is extremely dangerous, the juice being a deadly poison in which the Indians were accustomed to dip their arrows. When, however, the latter is expelled, the residuum, or farinaceous part, is perfectly wholesome, and makes a highly nutritious and excellent food. Long before the discovery of America the Indians were in the habit of expelling the juice, by first peeling and then beating the roots into a coarse powder and subjecting the latter to pressure and to the influence of heat in bags made of rushes. On the estates of the planters the roots are now ground in mills, pressed, and the perfect expulsion of the juice effected by heating the residuum in vessels placed over a brisk fire. Manioc is found on every table in Brazil, and supplies a great number of excellent dishes. Tapioca, so well known and extensively used in Europe, is a preparation of manioc, and is almost wholly brought from Brazil. The imports of this article into Great Britain amounted to 8,335 cwt., valued at 13,838*l.* in 1862; and to 2,696 cwt., valued at 4,193*l.*, in 1868. The culture of the manioc is said to be most unfavourable to the soil, exhausting it in the course of a few years. This, however, is of comparatively little consequence in a country where waste land is so abundant as in Brazil. A species of sweet manioc (*Manihot Assim*) is also found in Brazil. It is boiled and eaten in the same manner as the potato; but it is not serviceable in the manufacture of flour.

Notwithstanding her fertility and extent, Brazil is indebted to foreign countries, and especially to the U. States, for large supplies of wheat flour. This has been said to be a consequence of the unsuitableness of the soil for the culture of wheat; but this does not really appear to be the case, that species of grain being found to succeed extremely well in the southern provs. and on the table-lands of the interior. The importation of flour is rather a consequence of the indolence of the natives. The prov. of Para is particularly fitted for the growth of rice, and might supply it in any quantity.

The culture of the tea-plant has been tried in Brazil, and the soil and climate have been found suitable to its growth; but its culture has not made, and could not rationally be expected to make, much progress, inasmuch as it can only be successfully carried on where labour is abundant and cheap; whereas it is here both scarce and dear.

The forests of Brazil, which are of vast extent and luxuriance, furnish almost every variety of useful and ornamental wood; their products being adapted alike to ship-building, carpenters' work, cabinet work, dyeing, &c. The cocoa-tree is plentiful in the sandy soils along the coast. It is thicker and taller than in the E. Indies; cocoa is in general use among all ranks, and forms one of the chief articles of the internal trade, and also supplies considerable quantities for exportation.

The carasato, or castor-tree, is an indigenous production, and is much cultivated for the sake of the oil extracted from its seed, in general use for lamps and other purposes. The jacarandu, or rose-wood, is peculiarly valuable for cabinet work, and is extensively exported. One of the most valuable woods, the *Cesalpinia Braziletto*, or Brazil-wood (called *Ibiripitanga* by the natives), producing a beautiful red dye, has been already referred to. It is found in the greatest abundance, and of the best quality, in the prov. of Pernambuco; but being a government monopoly, it has been cut down in so improvident a manner, that it is now seldom seen within several leagues of the coast. There are also cedars, logwood and mahogany. The forests of Brazil, particularly those in the prov. of Para, along the Amazon, yield vast quantities of caoutchouc or india-rubber, the uses of which have been so very greatly extended during the last thirty or forty years. The exports of caoutchouc to Great Britain are pretty regular. They amounted to 80,626 cwt., valued at 272,349*l.*, in 1862, and to 84,882 cwt., valued at 299,641*l.*, in 1863. Nuts are also extensively exported.

Animals.—The Brazilian forests are full of rapacious animals: among which are the tiger-cat, the hyena, the saratu, an animal about the size of a fox, but far more ferocious, the jaguar, or tiger of S. America, the sloth, and the porcupine. The planters are much annoyed by ounces; wild hogs are common, and the singular animal called the anta, or tapir: the latter resembles the hog in shape, but is much larger; it is, in fact, the largest of the native quadrupeds, is timid and harmless, feeds like a horse, is amphibious, and capable of remaining for a long time at the bottom of lakes without coming up to respire. When killed, its flesh is generally eaten, and is said to differ but little from that of the ox.

The useful animals, as the horse, ox, and sheep, are all descended from the stocks brought from Europe by the early settlers. Their increase, especially that of cattle and horses, has been astonishingly great. Vast herds of wild cattle are met with in all the open parts of the country, particularly in the *llanos*, or plains of the S. provinces. Hides, tallow, jerked beef, horns, and bones, have long formed, and still continue to form, leading articles of export from Brazil. In 1862, the exports of hides to Great Britain amounted to 134,238 cwt., valued at 420,053*l.*, and in 1863 to 127,192 cwt., valued at 347,528*l.* It is only in particular situations that any use is made of the beef, which mostly becomes the prey of vultures, wild dogs, and other ravenous animals. Sheep being less able to defend themselves from attack, and being probably, too, not so well suited to the country, have not increased so rapidly as cattle and horses. Horses are of middling size, strong, active, and fleet.

The emu, or American ostrich, is found in the Brazilian plains; and the forests swarm with innumerable varieties of birds and monkeys. In the marshy countries the boa attains to an enormous size, and they are also infested with the coral snake, and other venomous reptiles.

Manufactures.—These, unless we call the preparation of sugar a manufacture, can hardly be said to exist in Brazil, and are restricted to the production of the coarsest species of cotton cloths, the tanning of leather, and a few of those that are simplest and most necessary. In the interior, as in the provs. of Matto Grosso and Goyaz, the mechanical arts are in the most backward state imaginable.

In the cities, however, a great number of trades are necessarily carried on. 'The European

stranger in Rio,' says Dr. Von Spix, 'is astonished at the number of gold and silversmiths and jewellers, who, like the other tradesmen, live together in one street, which calls to mind the magnificent *rue de Ouro* and *de Prata* of Lisbon. The workmanship of these artisans was, indeed, inferior to that of the European, but it is not destitute of taste and solidity. Many trades which are very necessary in Europe are, at present, almost superfluous in the interior of this country, on account of the circumscribed wants of the inhab. In the capital, however, and the other towns on the coast, joiners, whitesmiths, and other artisans are numerous; but tanners, soap-boilers, and workers in steel are scarce. There is a great demand for mechanics, to build sugar and other mills, to construct machines for working the gold mines, &c.; and very high wages are paid them. Hitherto no glass, china, cloth, or hat manufactures have been established in the capital; and their erection would not be advisable in a country which can obtain the productions of European industry on the lowest terms, in exchange for the produce of its rich soil.' (Travels, i. 198.)

Commerce.—The extremely circumscribed extent of her manufactured products, on the one hand, and, on the other, the large amount of her coffee, sugar, cotton, and other tropical products, give Brazil a powerful motive to engage in, and the means of carrying on, an extensive commerce. Her commercial policy has, also, been characterised by considerable liberality. The duties on imports and exports have been mostly moderate; and have been imposed more for the sake of revenue than of protection. Her imports comprise most sorts of manufactured goods suitable for her population and climate, particularly cottons, linens, woollens, and hardware, from England; flour, coarse cottons, beef, pork, &c., from the U. States; wine, silks, salt, brandy, olive oil, &c., from France and Portugal; linens, lace, pitch, &c., from Hamburg. Great Britain enjoys the largest share of the trade of Brazil. The total value of imports into Brazil from the United Kingdom amounted to 3,840,904*l.* in 1859; to 4,571,308*l.* in 1860; to 4,690,875*l.* in 1861; to 3,860,342*l.* in 1862; and to 4,082,641*l.* in 1863. Cotton manufactures form the largest item of these imports. They are of the average value of 2,000,000*l.* sterling per annum; during the five years, 1859–63, they fluctuated between 1,700,000*l.* and 2,400,000*l.* Next to cotton, but far below it in value, are the imports of British woollens and linens, each class averaging about 250,000*l.* per annum. The rest of British imports consist of miscellaneous manufactures and colonial produce.

The articles of export from Brazil have been already enumerated in our account of the productions of the country. The principal are coffee, sugar, and cotton: that of coffee alone averaging more than one half of the total value of all exports, and that of sugar nearly one-fifth. Next to these staple articles of export follow hides, bones, horse-hair, caoutchouc, gold, diamonds, cabinet and dye woods, drugs, gums, nuts, and other agricultural produce. The total value of the exports in the three years 1861–3 amounted to:—

Years	Exports	
	Milreis	£
1861	96,199,735	10,822,470
1862	106,782,222	12,013,000
1863	112,950,011	12,706,876

The imports, during the same period, amounted to:—

Years	Imports	
	Milreis	£
1861	180,864,573	14,666,014
1862	127,181,193	14,307,884
1863	111,622,684	12,567,561

The imports were divided as follows between the various countries in the two last-named years:—

Imports from	1862	1863
	Milreis	Milreis
Great Britain and British Possessions	67,591,015	54,600,474
France and French Possessions	18,441,774	19,353,461
Hanse Towns	6,590,916	3,828,250
Portugal and Portuguese Possessions	7,241,070	6,957,494
Spain and Spanish Possessions	1,609,259	1,755,679
Belgium	1,948,558	2,424,161
Sweden and Norway	503,918	312,661
Italy	812,914	696,355
United States	13,328,303	12,889,591
Chili	902,068	663,963
Mexico	252	—
Rio de la Plata	5,407,253	4,921,198
Russia	33,279	12,005
Austria	1,244,526	1,484,867
Denmark	44,509	77,062
Holland and Dutch Possessions	129,756	177,861
Ecuador	22,845	38
Ports of the Empire . . . not specified	1,036,156	645,540
Fisheries	51,963	626,506
Africa	5,990	6,470
	321,870	249,627
Total	{ 127,268,196 £14,317,672	{ 111,622,687 £12,567,561

It will be seen from the above table that Great Britain furnishes about one-half of the imports of Brazil. Of the exports of Brazil, Great Britain takes about one-third, as shown in the statistics before given.

Population.—Of the 8,000,000 inhabitants of Brazil, 5,000,000 are estimated to be freemen, 2,500,000 negro slaves, and about 500,000 native Indians. As already stated, the masses of the inhabitants congregate near the coast, and around the chief sea-ports; thus the district of the municipality of Rio de Janeiro comprises about 450,000 inhabitants, and the slaves in that district are rather less than half of the number. In the province of Rio de Janeiro, the slaves exceed in number the free population. Bahia contains but a small proportion of whites, and the black inhabitants are so numerous that it resembles an African city. Out of 125,000 inhabitants of Bahia, seven-eighths are said to be blacks, and nearly all the negroes are slaves. Pernambuco has a population of about 80,000, of whom one-third are estimated to be slaves, one-third coloured free blacks, and remaining one-third are Brazilians and foreigners. Whilst Brazil remained a colony of Portugal, but few women accompanied the emigrants to South America. The earliest European settlers intermarried and mixed with Indian women; afterwards an extensive intermixture of race occurred with the Africans who were bought for slavery. The mixed population increases continually and rapidly in Brazil. In the northern provinces the Indian element preponderates. In South Brazil the negroes are numerous. The greater part of the population of the Brazilian empire consists of mixed breeds, each of which has a distinguishing name; thus *Mulatto* denotes the offspring of a white with a negro; and *Mameluco* that of a white with an

Indian; *Cafuzo* denotes the mixture of the Indian and negro; *Curiboco*, the cross between the *Cafuzo* and the Indian; *Xibaro*, that between the *Cafuzo* and the negro, and so forth.

The 2,500,000 of negro slaves belong to about 40,000 proprietors. A law for the suppression of the trade in slaves was sanctioned by the emperor on June 6, 1854. The immigration of settlers from Europe, particularly Germans and Swiss, has been greatly encouraged by the Government for a number of years. According to an official report of the year 1861, there existed in the empire 55 colonies of these settlers, inhabited by 33,970 foreigners. The nucleus of these settlements, regarded as an antidote to slavery, is in the province of Rio Grande do Sul.

In Brazil, unlike the Spanish and English colonies, there is hardly any political division of castes, and very few of those galling and degrading distinctions which have been made by all other nations in the management of their colonies. This was not intended by the mother country, but has arisen from the circumstances connected with the colonisation of this vast territory, which rendered intermarriage with the natives inevitable. It is true that, according to the old code, people of colour are not eligible to some of the chief offices of government, nor can they become members of the priesthood; but, from the mildness of the laws, the mixed classes have gained ground considerably, and the regulations against them are evaded, or rather have become obsolete. Marriages between white men and women of colour are by no means rare; and the circumstance is scarcely observed upon, unless the woman be decidedly of a dark colour, for even a considerable tinge will pass for white.

The diseases and the vices introduced by Europeans are said to produce a fearful mortality amongst the natives. At the time when the Jesuits, Anchieta and Nobrega, exerted themselves to introduce European civilisation, an epidemical small-pox suddenly carried off two-thirds of the pop. (Southey's Brazil, i. 294.)

The *Brazilero*, or native Brazilians, born of Portuguese parents in Brazil, inherit all the idleness and inactivity of their European ancestors, Weech remarks, 'that the very narrow compass in which the necessities of the poorer classes are confined is almost incredible. A hut, constructed of thin poles of wood, plastered together, as it were, with earth, and covered with straw, is ample security against the sun and rain; a straw mat serves them as a bed, seat, and table; a dish and pot complete the house and cooking apparatus; a couple of cotton shirts, a pair of linen trousers, a calico jacket, a pair of wooden shoes, and a coarse straw hat, complete a wardrobe that furnishes them handsomely for a year; and a kitchen garden, a few fruit-trees, and a mandioc field, furnish them with a plentiful subsistence. Give them but a viola (a small guitar strung with metal strings), and some tobacco to make their much-loved paper cigars, and their dearest wishes are gratified. Smoking the latter, and strumming on the former, they can beguile entire half-days in a state of enviable forgetfulness, vegetating like the plants. A few fowls, sent to the city from time to time, furnish the necessary supplies; and thus live thousands of families, whose annual income does not exceed 20 milreis, or about 42. 10s.'

The number of negro slaves in Brazil is believed to be on the decline, although the importation of them from Africa has never entirely ceased. In 1826 a treaty was made between Great Britain and Brazil, providing that at the expiration of three years from the exchange of ratifications, the

carrying on of the slave trade by any Brazilian subject should be unlawful, and should be deemed and treated as piracy. During those three years, terminating in 1880, a considerable increase of the trade in slaves took place; much Brazilian capital was embarked in the slave traffic, and the greatest possible use of that source of profit was made as long as it was permitted.

In 1828 the number of slaves imported into Rio amounted to 43,555; and during the twelve months ending 30th June, 1830, the same port received 56,777 negroes, besides which, there were 21,554 imported into other parts of Brazil, making a total, in that year, of 78,881 imported slaves.

For twenty years, after 1830, the slave trade continued without abatement, and during that period a million of slaves were imported into Brazil. Lord Howden, minister at Rio de Janeiro, reported an importation of upwards of 60,000 negroes in 1847. Slavers were seized in 1850 by orders of the British Government in the Brazilian ports and rivers, and this decided measure led to such active efforts on the part of the Brazilian Government to suppress the slave trade, that, in 1851, Sir James Hudson reported that only 460 slaves had been imported into Brazil during the first quarter of that year. The slave trade has not been continued in Brazil since 1851, but there are upwards of three millions of slaves now in that empire.

Coffee plantations have been so profitable, that they have much increased in number, and many slaves have been brought from the northern or equatorial provinces of Brazil to the coffee grounds of the more southerly provinces. Chiefly on this account an internal slave trade has been kept up, involving some of the worst cruelties of forced removal of slaves from homes and separation of families. Mr. Westwood, the Consul at Rio de Janeiro, wrote to the Earl of Clarendon, 22nd January, 1857, 'During the last year, the value of slaves increased so much in this province, that large numbers were purchased in Bahia, Pernambuco, and other parts, by unfeeling speculators, and brought to this city for sale. Many of these unfortunate beings were brought from estates where they were born, and torn away from relations and old associations in the most inhuman and cruel manner possible.' 'Amongst the slaves transported from the north,' said a Brazilian senator in the senate, 'I have seen some in the market of Rio de Janeiro, who are children of ten and twelve years old, who have left their parents in the north, and are sold here. A slave from the north told me that he was married in the province where he was sold, and that his wife remained there, and he was sent here.' Mr. Scarlett, minister at Rio de Janeiro, made a strong appeal to the Brazilian Government to stop this traffic in 1858, but without effect. According to recent reports from Mr. Christie, about 5,000 slaves a year have been imported in this way for sale into Rio de Janeiro during the last twelve years. (Consular Reports, 1864.)

The planters of Brazil are very similar to those of other countries. The possession of an *engenho* (sugar plantation and manufactory) establishes, among the cultivators, a sort of nobility. A *senhor d'engenho* is always spoken of with respect; and to attain this rank is the object of every one. When the *senhor* is in the company of his inferiors, or even of his equals, he is reserved, holds his head high, and speaks in that loud and commanding tone, that betokens a man accustomed to be obeyed.

The mulattoes (commonly called *Pardos*, signifying of a brown colour, for the term mulatto is

regarded as a reproach in Brazil) are the offspring of Europeans and negroes. They show considerable ingenuity and perseverance in the mechanical arts, and are said to display a taste for painting.

There can be no doubt of the effectual influence of the mulatto in the political affairs of the country: a physical organisation essentially energetic, and which fits him to bear up against the heat of the climate, his activity and his intelligence, point him out as a person likely to make a conspicuous figure in a revolution, if not to organise a movement.

The Creoles are those born in Brazil of African parents; the Mamluks are the offspring of whites and Indians; the Curibocas, of negroes and Indians; and the Cubros of mulattoes and negroes. The African negroes form, as has been seen, a very large proportion of the population. Their condition, though not equal to that of the slaves in Buenos Ayres and the adjacent countries, is upon a far better footing than in many other colonies. It varies, however, in the different provinces, and is best in those situated in the interior. In the provinces formerly inhabited by the less warlike races among the Indians, who formed early alliances with Europeans, the introduction of negroes has been less necessary. Such, for example, is the case with Rio Grande do Sul, San Paulo, and the countries traversed by the Amazon. The negro population is most numerous in the provinces devoted to the raising of sugar and coffee, as Bahia and Rio Janeiro; and in these probably they have the greatest facilities for obtaining their liberty. The negroes brought to Brazil belong generally to Angola, Anguiz, Benguela, Cabinda, Mozambique, and Congo. Since the attempts to repress the trade, Koromantines, or negroes from the Gold Coast, who are thought to possess a greater degree of intelligence, are not so frequently met with. There are three modes by which the negroes of Brazil obtain their liberty: it may be granted them by their master while living, or he may bequeath it to them by his will, or they may obtain it by ransom.

The Brazilians divide the Indian races into 'Indios mansos,' civilised or converted Indians speaking the Portuguese language, and *Tapuios* or *Gentios*, uncivilised hordes.

The general opinion has been that the whole American race, from the polar regions to the Straits of Magellan, offered no distinctive traits, and that it was almost impossible to subdivide it. But a closer inspection has shown that there is as great a difference amongst them as among any of the other great varieties of the human race.

With few exceptions, the natives of Brazil appear to belong to the great family of the Guaranis, the differences in the tribes resulting from the different situations in which they have been placed; and originating partly in physical and partly in moral and accidental circumstances.

Speaking generally, the natives of Brazil are of a bright yellow copper colour; short, robust and well made; hair black, lank, coarse, and deficient on the chin; face round; cheek bones not particularly prominent; skin soft and shining; nose short, nostrils narrow; mouth middle sized; lips thin; eyes small, oblique, and elevated towards the exterior angle. They are in an extremely low state of civilisation; their industry being confined, in addition to the arts of hunting and fishing, and the gathering of wild fruits, to the culture of manioc and bananas. In some tribes clothes are wholly or all but wholly unknown; in others the women wear a scanty covering round their middle; and in others both sexes are partially clothed. The prac-

tice of painting the skin is universal; and some of them were, and, indeed, still are, in the habit of inserting wooden rings by way of ornament in the under lip. Almost all the tribes were anthropophagists, devouring the captives they had taken in war; but this horrid custom, if it did not entirely cease at the epoch of the conquest, has since fallen into disuse. They are in general grave and serious; but they are notwithstanding fond of feasts and pastimes; and, like the other Indians, are fond, to excess, of spirituous liquors. In some tribes they admit of a plurality of wives; and the men, engaged in chase or in war, or sunk in apathy and idleness, devote on the women the principal care of the domestic concerns. It is doubtful whether some of the more barbarous tribes have any idea of a Supreme Being; but they mostly all believe in the existence of malignant demons, whom they are anxious to conciliate. Among the tribe called Tupinambas, the chief was at the same time elective and hereditary; that is, a preference was generally given to the son as his father's successor, though the custom does not appear to have been immutable. Montaigne, on meeting an Indian chief at Havre, inquired through an interpreter, what was his right among his tribe; upon which the latter replied, 'It is that of marching foremost to battle;' and this might be said to express succinctly the extent of power assigned to him by his people. The Tupinambas chiefly inhabit the coast from the river Camama to the San Francisco. The Corvados, formerly very numerous, are now reduced to a number comparatively insignificant. They dwell chiefly on the banks of the Rio Xipotó, in Minas Geraes. They have one trait that distinguishes them from most other Indian tribes, i.e. they bury their dead. The Corvados, it appears, have lost much of their primitive ferocity, and with it also much of their former courage and intelligence.

The Cafuzos, a mixture of Indians and negroes, are a very singular race. What gives them a peculiarly striking appearance, is the excessively long hair of the head, which, especially at the end, is half curled, and rises almost perpendicularly from the forehead to the height of a foot or a foot and a half; thus forming a prodigious and very ugly kind of peruke. (Spix and Martius, i. 824.)

The Puris, at the commencement of the present century, were very troublesome enemies to the Brazilians. A great many fazendas have been from time to time destroyed by them. The Rio Doce, the S. banks of the Parahyba, San Fidelis, and the country watered by the Rio Pomba, in Minas, are the chief points exposed to their incursions. This race is more implacable than any of the Indian races of Brazil.

The Botocudos, descended from the Aymores, occupy at present the territory lying between the Rio Doce and the Rio Pardo. They inhabit the recesses of the forests; are little addicted to agriculture; and are exceedingly fierce. The name given to them by the Portuguese is derived from patoque or botoque (literally the bung of a cask), from the circular ornament they wear in their ears and lips.

The estimates that have been formed of the number of Indians in Brazil differ in the most extraordinary manner. Thus, they were estimated by Humboldt to amount, in 1819, to 259,400 (*Voyage aux Régions Equinoxiales*, &c., ix. 179; xi. 164); whereas they have since been computed by Veloso de Oliveira at 800,000, and by the Viscount de Santarem at 1,500,000. (D'Orbigny, *L'Homme Américain*, ii. 291.) The latest, and, in all probability, most trustworthy estimates, give the number of Indians at half a million.

Public Income and Expenditure.—Considering the small and much scattered population of the empire, it has a considerable revenue, but a still more considerable expenditure. The actual income during the four financial years 1856-60 was as follows:—

Years	Revenue	
	Milreis	£
1856-57	52,756,109	5,935,062
1857-58	53,411,166	6,008,756
1858-59	50,375,723	5,667,268
1859-60	47,070,791	5,295,464

The actual expenditure during the same period was as follows:—

Years	Expenditure	
	Milreis	£
1856-57	41,926,719	4,716,755
1857-58	54,027,379	6,078,080
1858-59	55,192,442	6,209,149
1859-60	54,005,289	6,075,595

But a very small portion of the revenue is derived from taxation. The great bulk, amounting to nearly two-thirds, is derived from import duties. Subjoined is a statement of the revenue for two periods:—

Branches of Revenue	1856-57	1859-60
	Milreis	Milreis
Import Duties . . .	32,856,263	27,246,295
Shipping Dues . . .	249,445	280,623
Export Duties . . .	6,910,999	5,559,673
Inland Taxes . . .	7,065,737	8,185,634
Municipal Taxes . .	1,531,754	1,773,516
Extraordinary receipts	542,216	565,765
Total	49,156,414	43,611,506
Loans	3,599,695	3,459,285
General Total {	52,756,109	47,070,791
	£5,935,062	£5,295,464

The expenditure during the same two years was as follows:—

Branches of Expenditure	1856-57	1859-60
	Milreis	Milreis
Ministry of Interior .	6,656,227	9,826,255
„ Justice	3,309,733	4,617,702
„ Foreign Affairs .	639,374	864,332
„ Marine	5,510,457	9,247,421
„ War	10,641,768	12,087,047
„ Finance	13,616,403	14,750,648
Total	40,373,963	51,298,400
Deposits paid off . .	1,552,756	2,711,889
General Total {	41,926,719	54,005,289
	£4,716,755	£6,075,595

The annual deficits in the budget, shown in the above tables, were covered by loans, raised both at home and abroad. The public debt of Brazil amounted, at the end of the year 1864, to about 18,000,000*l.* sterling, of which 10,965,000*l.* constituted the foreign debt—chiefly held by British creditors—and the rest the funded internal debt. But besides this funded debt, there was, at the same time, a floating debt, consisting of treasury bonds and government paper-money, to the amount of 4,500,000*l.* sterling. The total amount of paper currency in circulation throughout the empire was estimated, in June, 1864, at 80,021,950,000 milreis, or rather more than 9,000,000*l.* sterling.

Railways.—The great want of internal communication within the immense area of the empire,

has been remedied to some extent, in recent years, by the establishment of railways. They consist chiefly of four lines constructed by private companies, and, in the main, with British capital, but with the aid and subvention of the Brazilian government. The four lines are known as the Don Pedro II., the Bahia and San Francisco, the Pernambuco, and the San Paulo railways. The first-named is a main line, which is to extend into the interior from Rio de Janeiro, and is intended to be the Grand Trunk from which many branches will ramify on either side. The first section (about 40 m. in extent) was commenced in 1857. The second section was offered to contractors in the latter part of the same year, since which time this section, 44 m. long, and containing the tunnel of Mendez has been finished. The whole must be completed by 1st January, 1868, but it is likely to be opened from Santos to Jundiary two years before that date.

The second line, the Bahia and San Francisco, 77 m. long, was built by an English company, under the 'Limited Liability' Act, and opened Jan. 31, 1863. The line traverses the sugar and tobacco districts, and opens up the cotton field of the important province of the Bahia. It commences at San Salvador, the chief port of that province, and the second largest city in the empire, and terminates at or near the town of Joazeiro, on the right bank of the great river San Francisco, the navigation of which is free and uninterrupted from that town for 1,000 m. into the interior of Brazil. This railway cost 1,800,000*l.*, on which sum an interest is guaranteed of seven per cent., namely, five per cent. by the Brazilian government, and two per cent. by the provincial legislature of Bahia.

The third line runs from the city and port of Pernambuco to the town of Agoa Preta in the interior, a distance of 78 m. It is intended to prolong this railway ultimately to the river San Francisco, at the point where its waters become navigable. Both this Pernambuco line, and the fourth Brazilian railway, that of Bahia—a work of extraordinary difficulty—were constructed entirely by English engineers, as well as with English capital, on which, however, there is in every case a guaranteed interest of seven per cent. Hitherto, neither of these lines have proved commercially remunerative, though they have been, undoubtedly, of vast benefit to the country.

Religion.—The established religion of Brazil is the Roman Catholic; but all other religions are tolerated, and there is not now, whatever there may have been formerly, much intolerance among the Brazilian Catholics, except among the lowest and least instructed classes. Indeed the others are generally distinguished by a want of zeal in religious matters; and are more occupied with the outward ceremonies of religion than with its spirit or practical influence. Some of the clergy possess the virtues and acquirements that are suitable to their station; but such is not generally the case; the majority being ignorant, bigoted, and not unfrequently immoral.

Ecclesiastical affairs are under the direction of an archbishop, at Bahia (originally a bishopric, being the first founded in Brazil, in 1522, and raised to the archiepiscopal rank in 1667), six bishops, viz. at Rio, Pernambuco, Maranhao, Para, Mariana, and San Paulo; and two 'prelacias,' with episcopal powers, viz. Goyaz, and Cuyaba. The church of Brazil has been for some time engaged in a dispute with Rome as to the appointment of the bishops, the pope claiming the sovereign right of nomination, which the church rejects.

Monasteries and nunneries are, or rather were,

numerous in many parts of Brazil. The saints' days are said to be celebrated in a manner as splendid as at Rome. A recent writer observes that neither the carnival at Venice, nor the declining masquerades of Paris, can convey an exact idea of the tumult and extreme absurdities which prevail during the days of the '*instrada*,' or carnival, not only at Rio, but throughout the cities of Brazil. Recently measures have been taken for lessening the number of monasteries and nunneries. The revenues of many of them have reverted to the crown, and their buildings have been applied to other purposes.

Government.—The constitution under which the empire is governed was framed immediately after its separation from Portugal, and bears date Dec. 11, 1823. It recognises four powers in the state, namely, the legislative, the executive, the judicial, and the 'moderating' power, or the royal prerogative. The legislative power is vested, for the affairs of the empire, in a general legislative assembly, and for provincial affairs in the provincial assemblies. The general legislative assembly consists of two Houses, the Senate and the Congress. The members of both Houses are elected by the people, but under different forms. Senators are chosen for life at electoral meetings expressly convened, each of which has to nominate three candidates, leaving the choice between them to the sovereign or his ministers. A senator must be forty years of age, a native-born Brazilian, and possessing a clear annual income of 800 milreis, or about 90*l.* A salary of 3,600 milreis, or 400*l.* for each session is paid to every senator.

The members of the House of Congress are chosen by indirect election, for the term of four years. For this purpose, the country is divided into electoral districts, where every 200 voters appoint one elector, and a number of the latter, varying according to population, nominate the deputy. The qualification for a voter is an annual income, of any sort, of 100 milreis, or a little more than 10*l.* The electors must have an income of 200 milreis, or a little more than 20*l.* a year, as a qualification; and the deputies must have an income of 400 milreis each, or about 45*l.* per annum. All voters, inscribed on the lists, are bound to give their votes, under a penalty. Minors, monks, and servants are not allowed a vote; and naturalised foreigners, as well as persons not professing the Roman Catholic religion, are incapable of being elected deputies. The latter receive a salary of 2,400 milreis, or 270*l.*, each session, besides travelling expenses.

The annual session of the legislative assembly has to commence on May 8, and ordinarily extends over four months. Each House nominates its own officers. The two Houses sit in general assembly at the opening and close of the session for the deliberation of important measures; and on these occasions the president of the Senate takes the chair, and the senators and deputies sit in mixed order. The two Houses sit apart during the rest of the session, in the execution of the ordinary duties of legislation. The Chamber of Deputies has the initiative in the assessment of taxes, in matters concerning the army and navy, and in the choice of the sovereign of the realm, should the latter act become necessary. The Senate has the exclusive privilege of taking cognizance of offences committed by members of the Imperial family, and by senators and deputies, if committed during the session. It is also invested with the right of convoking the legislative assembly, should the emperor fail to do so, within two months after the period fixed by law.

The executive power is vested in the sovereign,

assisted by his ministers and a council of state. The ministers are responsible for treason, corruption, abuse of power, and all acts contrary to the constitution, or the liberty, security, and property of the citizens. From this responsibility they cannot escape upon the plea of orders from the sovereign. The executive functions consist in the convocation of the ordinary meetings of the legislative assembly; the nomination of bishops, presidents, and governors of provinces; the declaration of peace or war; and the general execution and superintendence of all measures voted by the legislature. The 'moderating' power, likewise vested in the sovereign, gives him the authority to select ministers and senators; to temporarily withhold his sanction from legislative measures, to convolve extraordinary legislative assemblies; to dissolve the Chamber of Deputies; and to grant amnesties and pardons.

The ministers are assisted by a council of state, consisting of twelve ordinary and twelve extraordinary members, all named by the emperor for life. The twelve ordinary members are constantly consulted on matters of administration and international questions, and form part of the government. The whole twenty-four are convened on special occasions. The councillors of state, ordinary and extraordinary, are mostly ex-ministers. The heir to the throne, if of age, is by right a councillor of state.

At the head of each province is a president appointed by the central government; and in each province there are district chambers and a general council, called the Legislative Assembly of the province, the members of which are nominated by the same voters who elect the deputies and senators. These voters likewise elect the justices of the peace for the municipal districts. All these provincial elections are for four years. The Legislative Assemblies of the provinces exercise the same power within their districts as the Congress for the whole empire.

Army and Navy.—The land forces amount nominally to from 60,000 to 65,000 men; of whom 22,546 were under arms and received pay in 1864. The remainder of the military force consists of regular and local militia: the former may be despatched on foreign service, while the latter do not leave the place of their abode. The local militia, in which every man from sixteen to sixty, who is not already enrolled in the regular militia or the troops of the line, may be called upon to serve, constitutes an important defence, and is chiefly employed in maintaining internal order. One great use may be said to be that of keeping up a certain military order among the people. Its chief officers are the 'capitao mors,' or colonels.

The navy, in 1864, numbered 15 sailing vessels and 21 steamers. The former comprised 1 frigate, 6 corvettes, and 5 brigs; while the latter were all small vessels of from 120 to 250 horse-power.

Discovery and Historical Sketch.—It is generally believed that the first discovery of Brazil was made on the 26th of January, 1500, by the Spaniards under Vincente Yanez Pinçon, a native of Palos, and one of the companions of Columbus. He is said to have touched at Cape St. Augustin, and to have subsequently coasted along the shore as far as the river Amazon, and thence to the mouth of the Orinoco. His discovery does not appear to have been attended by any important results, for he made no settlement, but merely claimed the country for Spain.

In the same year, Pedro Alvarez Cabral was appointed admiral of a large fleet sent out by Emanuel, king of Portugal, to follow up the successful voyage of Vasco da Gama in the east.

Adverse winds drove the expedition so far W. that, on the 25th of April, Cabral fell in with the coast of Brazil, which he supposed at first to be an island; and on Good Friday the fleet cast anchor in a commodious harbour, to which he gave the name of Porto Seguro. Having taken possession of the country for the crown of Portugal, by erecting a cross, and giving it the name of Terra de Santa Cruz, Cabral proceeded on his voyage, taking care, however, in the first place, to send information of his discovery to his sovereign. Soon after this intelligence reached Portugal, Emanuel despatched a small squadron to explore the country, under the command of the famous Amerigo Vespucci, who had been invited from Seville for that purpose, in 1502, and who made a second voyage in a subsequent year. In 1504, he again returned to Europe, bringing with him a cargo of Brazil wood, &c.

It was not until 1508 that a third voyage of discovery was undertaken to Brazil, as the advantages which had accrued on the former voyages did not appear to have answered the expectations of the projectors. Amerigo Vespucci was then despatched by the king of Spain, to whose service he had returned, to take possession of the country. But this produced a remonstrance from Portugal; and a dispute having arisen amongst some of the leaders of the expedition, it returned to Spain without effecting anything of importance. In 1515, another expedition was fitted out from Spain, the command of which was assigned to Juan Diaz de Solis, with the ostensible purpose of finding a passage to the great Pacific Ocean. To this navigator is supposed to belong the honour of having discovered the harbour of Rio Janeiro, on the 1st of Jan., 1516, though the priority, in this respect, has been disputed by the Portuguese admiral, Martin Afonso de Souza. On the return of the expedition to Spain, the Portuguese government claimed the cargoes, and again remonstrated on this interference on the part of Spain.

In the reign of Joan III., the coast was divided into captaincies, many of which extended 50 leagues. It is needless to follow step by step the rising fortunes of the Brazilian territory. Various towns sprung up along the shore, which were subject to the vicissitudes that then usually awaited newly founded colonies. They were successively taken and plundered by the French, Dutch, English, &c., who, if not expelled, usually contented themselves with a short possession, and abandoned them, after frequently committing the most barbarous atrocities. Notwithstanding these calamities, the colony continued to increase in prosperity and importance under the superintendence of the Portuguese government. But it experienced a severe check on the annexation of Portugal to the crown of Spain in 1588, during the reign of Philip II. As the mines that had been discovered, down to that period, yielded less wealth than those of the Spanish possessions in S. America, Brazil did not receive much favour from that monarch. The Dutch took advantage of this indifference on the part of Spain; and it was not indeed until they had made considerable inroads, that an expedition was fitted out, in 1640, to expel them from the territory. About this period, the house of Braganza was restored to the throne of Portugal. After a long and desperate struggle, the Dutch were compelled to evacuate Brazil in 1654. Henceforward it continued in the possession of Portugal, but the latter country being in a very abject impoverished state, instead of rendering assistance to its colony, was compelled to rest its principal hopes of being able to maintain an independent existence on the wealth and resources of Brazil,

which it subjected to all the galling and vexatious restraints of the old colonial system.

In 1808 a new era began in Brazil. The French having invaded Portugal in the course of the previous year, the prince regent, John VI., and his court, accompanied by a large body of emigrants, set sail for Brazil, where they arrived on the 25th of Jan., 1808. Brazil immediately ceased to be treated as a colony. In the course of the same year, her ports were thrown open to all friendly and neutral nations; and by a decree dated the 15th of Nov., 1814, all nations were allowed to trade freely with them.

The revolution in Portugal in 1820 was very speedily followed by a revolutionary movement of the same description in Pernambuco; and to restore tranquillity, and anticipate the further progress of revolution, the government, in 1821, proclaimed the adoption of the Portuguese constitution. Soon after this, the king having left Brazil for Portugal, a struggle commenced between the Portuguese, who wished to recover their former ascendancy over Brazil, and the Brazilians, who were resolved to preserve their newly acquired liberties, which ended in the complete separation of all connection, other than that subsisting between independent states, between the two countries. The government of Brazil having been entrusted to the crown prince, Don Pedro, he refused to admit the troops sent out by Portugal to support her authority, or to obey the instructions of the king, his father. In the following year, 1822, Brazil was declared to be a free and independent state, and Don Pedro assumed the title of emperor. After several stormy debates, the project of a constitution (see *ante*), submitted by the emperor, was accepted; but the disputes between the emperor and the chamber of deputies having continued, the former abdicated the throne in favour of his son, a minor, in 1831, and, singular as it may seem, the rights of the latter have hitherto been preserved; and some attempts at insurrection by the republican party have been suppressed without much difficulty, and internal tranquillity has been pretty well maintained.

Considering the lengthened period during which Brazil has been colonised; its vast extent and fertility; the variety of its productions, and its favourable situation for commerce, its progress in the accumulation of population and wealth has been extremely slow. This apparent anomaly may, however, be easily explained. The slow progress of Brazil, like that of the contiguous *cis-desant* Spanish colonies, is entirely owing to the vicious principles on which it was governed by the mother country; to the rigid exclusion of foreigners from the country; the oppressive restrictions laid on the trade and industry of the colonists; and more than all the rest, to the ignorance of the Portuguese, and their inferiority, in respect of science and art, to most other nations of Europe. Portugal could bequeath nothing to her colonies but pride, superstition, and intolerance. But since the downfall of the old colonial system, consequent on the emigration of the court to Brazil, the foundations of a new and better order of things have been laid. The settlement of foreigners in Brazil, and the unfettered intercourse she now carries on with all the most civilised countries of the world, have already had the best effects. And though it will require a lengthened period to counteract the joint influence of ignorance, slavery, and a debasing superstition, Brazil is rising, not merely in the scale of wealth and population, but also in that of civilisation.

BRAZZA, an island of the Adriatic Sea, near the coast of Dalmatia, dependent on the circle of

Spalatro. It is about 24 m. long, by from 5 to 7 broad, and contains a small market town and 23 villages, with (in 1860) 15,497 inhabitants. It is very mountainous and rocky: in the most elevated parts there are large tracts quite stony, and hardly fit to bear the wildest plants. Great labour and expense are necessary to bring the ground to a fit state for tillage; yet the inhabitants go on progressively increasing their cultivated land, and consequently their vintage, and diminishing their woods and cattle. Its wine is accounted the best in Dalmatia; the other vegetable productions are oil, figs, almonds, and saffron. The corn crop is extremely scanty, scarcely affording subsistence to the inhabitants for three months in the year; hence they are obliged to import to a large extent from the mainland. The stony nature of the soil, and the scarcity of fresh water, subject the island to frequent droughts. Brazza was famous in ancient times for its kids, which still continue in their former perfection. The pastures here give to the flesh not only of kids, but of lambs, a particular delicacy of taste; the milk too of this island is far superior to that of the neighbouring countries, so that its cheese is in great repute in Dalmatia, and wherever it is known. Bees and silk are cultivated with some success; and the berries of the lentisk furnish the peasants with oil during a scarcity of olives. This island belonged formerly to the republic of Venice, and was ceded to Austria at the peace of Campo Formio.

BRECHIN, a royal burgh of Scotland, co. Forfar, on a sloping bank on the left side of the S. Esk, $7\frac{1}{2}$ m. W. from its junction with the sea at Montrose. Pop. 7,179 in 1861; inhabited houses 782. The main street, which runs nearly N. and S., is about a mile in length. Some portions of the town are very steep, particularly about the Croes. It was formerly walled, and was also a bishop's see: the bishopric was founded by David I. about the middle of the 12th century; and the portion of the cathedral which now forms the parish church still remains. It was originally a stately Gothic structure, but its architectural beauty and symmetry have been defaced by the bad taste displayed in modern repairs. It is surmounted by a square steeple 120 ft. high. In addition to the parish church, which is collegiate, there are four Presbyterian dissenting chapels, one Episcopal chapel, and a place of worship in connection with the established church. In the churchyard, near the cathedral, is one of those round towers, of which there is only another in Scotland, at Abernethy, and which, it is supposed, were built by the Picts, but for what purpose is unknown. It is 108 ft. high, is surmounted by a conical roof of grey slate, and has no staircase, either without or within. In another part of the town is an ancient hospital, called the *Maison Dieu*, now used as a stable; but certain funds which belonged to it afford weekly allowances to poor inhab. being the widows or children of burgesses. The Red Friars seem to have had a monastery here, but all traces of it have disappeared. (Keith's Scot. Bishops, edit. 1824, p. 397.) Brechin is a busy manufacturing place. Its staple manufacture is linen, partly bleached (hence the number of bleaching grounds in the immediate vicinity), and Osnaburghs, sack-cloth, coffee and cotton bagging. There is much commercial activity, greatly favoured by the Aberdeen railway, with which the town is connected by a short branch line. The annual value of real property amounted to 11,211 £ in 1863. Brechin unites with Montrose, Forfar, Bervie, and Arbroath in sending a mem. to the H. of C. Registered electors, 273 in 1863. Of the eminent men which this place has produced, Dr. John Gillies, author

of a History of Greece, a translation of the Politics of Aristotle, and royal historiographer for Scotland, deserves special mention.

Brechin Castle, which has been for many centuries the residence of the Maules of Panmure, stands on a precipice overlooking the Esk, and is separated from the town by a deep ravine. This castle was formerly a fortress. In 1808, it withstood a siege of twenty days by the English under Edward I.; and surrendered only when Sir Thomas Maule, its brave commander, was killed.

BRECON, or BRECKNOCK, an inland co. of S. Wales, having N. the cos. of Cardigan and Radnor; W. Cardigan and Caermarthen; S. Glamorgan and Monmouth; and E. the latter and Hereford. It is about 85 m. in length, by about 30 m. in breadth, and contains 460,158 acres. It is pervaded by two principal mountain chains, which, with their offsets, occupy a large portion of the surface. The highest summits are the beacons of Brecknock, Capellante, and Cradle mountain; respectively 2,862, 2,894, and 2,545 ft. above the level of the sea. There are, however, a number of beautiful and fertile valleys. The Wye skirts the co. for a considerable distance on the NW., and it is traversed by the Usk, Taaf, and other lesser streams. Climate rather severe and humid. Though a good deal improved, agriculture is still in a backward state; and no proper rotation of crops is observed. Oats and barley are the principal objects of attention, but a good deal of wheat is also raised. Turnips are more extensively cultivated than formerly, and the stock of cattle and sheep is also improved. Farms mostly small, and generally occupied by tenants at will. The principal manufacture is that of woollen cloth, the produce of domestic industry. There are large iron works at Beaufort and Clydach, near the confines of Monmouthshire. The principal towns are Brecon, Crickhowell, and Builth. The Welsh language, though still spoken in different parts of the co., is falling rapidly into disuse. Brecon is divided into 6 hund. and 66 par. In 1861 it had 12,913 inhab. houses, and 61,627 inhab. It returns 2 mem. to the H. of C., 1 for the co., and 1 for the bor. of Brecon. Registered electors for co., 2,503 in 1865. The amount assessed to property tax was 235,054*l.* in 1861, and the gross rental assessed to poor rate, 204,859*l.*

BRECON, or BRECKNOCK, a bor. and town of S. Wales, cap. of the above co., at the confluence of the Honddû and Tarell with the Usk; 144 m. W. by N. London. Pop. within the parl. bounds 5,639, and within the municipal bounds 5,235 in 1861. Brecon is an ancient, irregularly built town, on a very beautiful and picturesque site; there are three principal streets, which diverge from the high street, and contain many well-built houses; the meanest buildings are towards the approaches, on either side; which, however, on the line of the chief thoroughfare, have been much widened and improved within a recent period: it is paved, and lighted with gas. There are four churches—St. John's, originally attached to the priory; St. Mary's, a chapel of ease (both Gothic and nearly rebuilt in Henry VIII.'s reign); St. David's, built soon after the conquest, and one of the oldest in the country; and Christ Church, a collegiate church, established by Henry VIII.: it is extra-parochial, and has a grammar-school attached to it. There is an endowed free school for 50 boys, and three or four small charities (the principal of which amounts to 36*l.* a year, for apprenticing poor children), and a borough and county hall, rebuilt in 1770, a good spacious building, in the high street, with the market place under it. There is a promenade along the Usk, under the old town

walls, which commands a noble range of mountain scenery; and a more retired one through the priory woods. The Brecknock and Abergavenny Canal (35 m. long) commences at this town, and joins the Monmouthshire Canal (18 m. long), which last joins the Usk near Newport. Regular passage and trading boats ply on the canal. Weekly markets are held on Friday for cattle; Saturday and Wednesday for general provisions; and 5 annual fairs, for stock and agricultural produce (each preceded by a leather fair), 1st Wednesday in March, 4th May, 6th July, 9th September, and 16th November: those of May and November are also statute fairs, for hiring servants. There are no manufactures; and its trade chiefly consists in the supply of articles of general consumption to the neighbourhood, which comprises the greater part of the co. The limits of the parl. borough comprise the par. of St. David's, St. John's, St. Mary's; the Castle, and Christ Church precincts, and the ward of Treacastle, which is 10 m. off, and only connected with it for election purposes. Its present municipal limits are restricted to about one-third of the former, and comprise only the town and some small portions immediately contiguous. The town is governed by a mayor, 4 aldermen, and 12 councillors. Amount assessed to property tax 26,565*l.*, and gross estimated rental assessed to poor rate 18,775*l.* in 1861. The assizes and quarter sessions for the co. are held in Brecon. Brecon has returned 1 mem. to the H. of C. since the reign of Mary. Previously to the Reform Act the privilege vested in 11 burgesses. There were 815 registered electors in 1861, all 10*l.* householders. Brecon is the chief polling town of the co. The castle of Brecon was built in 1094, from which period the town also dates its origin; many Norman families then settled in the co., whose descendants still remain. It was surrounded by strong walls: these and the castle were destroyed in the last civil war, by the inhabitants, to prevent a siege, or being saddled with the maintenance of a garrison.

BRÈDA, a fortified town of the kingdom of Holland, prov. Brabant, cap. arrond. and cant., on the Merk, 24 m. WSW. Bois-le-Duc, and 30 m. NNE. Antwerp, on a branch line of the railway from Antwerp to Rotterdam. Pop. 15,100 in 1861. It is one of the strongest places in the kingdom, being regularly fortified and defended by a citadel rebuilt by William III., king of England; its position, in the middle of a marsh that may be laid under water, contributes materially to its strength. It is well built, with broad and well-paved streets; has 4 squares, a fine quay, several canals, an arsenal, town-hall, 2 Protestant and 4 Catholic churches, an orphan hospital, &c. The principal Protestant church has a spire 362 ft. in height. The ramparts are planted with trees, and afford fine promenades. It is the seat of tribunals of primary jurisdiction and of commerce; and has some manufactures of woollen goods, linen, hats, with breweries and tanneries.

Breda was taken from the Spaniards by Prince Maurice, in 1590, by means of a stratagem suggested by the master of a boat who sometimes supplied the garrison with fuel. With singular address, he contrived to introduce 70 chosen soldiers into the town, under a cargo of turf; who, having attacked the garrison in the night, and secured the gates, their comrades came to their assistance, and gained possession of the town. It was retaken by the Spaniards, under the Marquis of Spinola, in 1625; but was finally ceded to Holland by the treaty of Westphalia, in 1648.

BRÈDE (LA), a town of France, dép. Gironde, cap. cant., near Bordeaux. Pop. 1,621 in 1861. In the neighbourhood of this town stands

the *Château de la Brède*, where the illustrious author of the *Esprit des Lois* was born, and where he composed the greater portion of his immortal works. It is a large gloomy-looking building, in the middle of extensive plains and meadows, and is surrounded by a deep ditch filled with water, over which is a drawbridge. In the chamber used by Montesquieu, the furniture has been carefully preserved as in his time: it consists of a plain bed, a few easy chairs of a Gothic shape, and some family pictures; the room is wainscotted, and from the window there is a fine view over the surrounding country. Montesquieu was much attached to this retreat. 'Je puis dire,' says he, 'que la Brède est un des lieux aussi agréables qu'il y ait en France; au château près, la nature s'y trouve en robe de chambre, et pour ainsi dire au lever du lit.'

BREMEN, one of the three free German Hanseatic cities, on the Weser, by which it is intersected, 60 m. SW. Hamburg, and about 37 m. direct from Bremerhaven, at the mouth of the Weser: on the railway from Hanover to Bremerhaven. Pop., in 1849, 53,478, and, according to the latest census, in 1862, 98,575. The city of Bremen is fifteen German or about seventy English miles distant from, and about thirty feet above the North Sea. The river Weser, shortly before it reaches Bremen, separates into two different arms, the broader of which is called the Large Weser, and the other the Little Weser; the Large Weser runs through the town of Bremen, dividing it into two parts, which are connected by a stone bridge. Below the town the two arms of the river reunite, and form the Lower Weser, which at this point is only deep enough for vessels drawing from seven to eight feet water. Sea-going ships are, therefore, in general unable to come up to the city of Bremen, and have to unload their cargoes at some port lower down the river. Before the year 1827 most vessels discharged their cargoes at Brake (in Oldenburg), at that time the only port of consequence on the Lower Weser; but in that year Bremen purchased from Hanover (for the sum of 77,200 dollars gold) a piece of ground on the right bank of the mouth of the Weser, and founded the port of Bremerhaven, which has since become a flourishing town of about 8,000 inhabitants. The larger portion of the city, called the *Altstadt*, or old town, lies on the right, and the *Neustadt*, or new town, on the left bank of the river. The streets in the latter are comparatively straight and broad, but those in the former are mostly narrow and crooked, and the houses being high, they have a gloomy appearance. An island in the river is included within the city; the communication between its two great divisions being kept up by a bridge, which crosses this island. The ramparts by which the town was formerly surrounded have been levelled, planted, and converted into fine gardens and promenades. It has 13 churches, of which the cathedral, built in 1160, is the principal: the church of St. Ausgarius has a spire 325 ft. in height. The new town-hall, formerly the archiepiscopal palace, is a building of the same elaborate character as the town-halls in Bruges, and other cities of the Netherlands. There is also an old town-hall, built in 1405, beneath which are the famous wine cellars, containing vats considerably more than 100 years old. It has, also, an exchange, with concert and ball-rooms; a museum, built in 1801, containing a public library, lecture and reading-rooms; a theatre; a building called the *Schutting*, or place of meeting of the elder merchants (*Conventiculum Seniorum*); a weighing-house; a *pædagogium* (for scientific instruction), gymnasium, high school, school of commerce and navigation, school of design, 2

orphan asylums, and numerous other charitable institutions. Both sides the river are lined with handsome and convenient quays.

The manufactures of Bremen are considerable. The principal are those for the preparation of snuff and cigars, which employ a great many hands. There are also many distilleries; numerous factories for weaving, and establishments for bleaching linen; with factories for the spinning of cotton; sugar refineries; tanneries, sail and canvas factories; soap and candle do.; cordage do.; oil works, &c. A considerable trade is also carried on in the building and fitting out of vessels.

The situation of Bremen at a navigable river, and connected by railway with all the important towns of Germany, renders her the principal emporium of Hanover, Brunswick, Hesse, and other countries traversed by the Weser. In consequence, she has an extensive and increasing trade. Ships of large size stop at Bremerhaven; vessels drawing from 13 to 14 ft. water ascend the river as far as Vegesack, 13 m. below Bremen; and vessels not drawing more than 7 ft. water come up to the city. The great articles of import are tobacco, coffee, sugar, and other colonial products; whale-oil, cotton, and cotton yarn, vegetable oil, cheese, butter, wine, tea, rice, iron, spices, and dye-woods.

Of the articles of export, linens occupy by far the most prominent place; and next to them are snuff and cigars, with hams and bacon, oak bark, rags, bones, chicory, oil-cake, refined sugar, quills, soap, lead, and vitriol.

The following table, compiled from official returns, shows the commerce of Bremen with other nations, in the year 1863:—

IMPORTS IN 1863.

From	Total Imports
	Gold Dollars
The States of the German Customs' Union	20,665,400
Other parts of Europe	15,324,327
Greenland and British N. America	131,681
United States of America	10,969,710
Mexico and Central America	398,997
South America	9,702,910
West Indies	4,715,690
Africa	177,750
Asia	4,821,796
Sandwich Islands	517,485
Total	67,145,146

EXPORTS IN 1863.

To	Total Exports
	Gold Dollars
The States of the German Customs' Union	30,497,690
Other parts of Europe	17,625,023
British North America	42,322
United States of America	8,683,042
Mexico and Central America	223,726
South America	876,826
West Indies	944,479
Africa	206,156
Asia	219,363
Australian and Sandwich Islands	349,489
For the equipment of Merchant Ships	738,550
Total	60,406,656

Bremen has a considerable importance as the chief port of German emigration. The number of emigrants which left Germany for transatlantic countries, via Bremen (Bremerhaven), amounted in the year 1863 to 18,175; their various destinations were as follows:—

Destination	Number of Ships	Number of Emigrants
Quebec	2	408
New York	71	16,428
Baltimore	13	1,110
Mexico	1	1
New Granada	2	2
Venezuela	3	6
Brazil	4	90
Buenos Ayres	4	72
West Indies	13	15
West Coast of Africa	3	8
Cape of Good Hope	1	12
Burmah, China, and Asia	1	1
Australia	1	3
Honolulu	2	19
Total	121	18,175
In 1862	122	15,187

According to their nationality the above ships belonged to:—

	No. of Ships
Bremen	108
British	—
Hanoverian	3
Oldenburg	6
Other German	2
Other Countries	2
Total	121

The North-German Lloyd steamers conveyed 6,251 emigrants; all the rest were shipped in sailing vessels. Compared with the average number of emigrants conveyed from Bremen during the last ten years, the number in 1863 was small. As a proof of the importance to the Bremen ship-owners and merchants of making Bremen a port of embarkation for emigrants, the circumstance may be mentioned, that a society has recently been established, consisting principally of ship-owners, for encouraging emigration, and has purchased an immense building at Bremerhaven, large enough to afford shelter to above 2,000 emigrants at a time, and provided with a chapel, a hospital, and all other requisite accommodation. According to an ordinance issued by the Senate, on March 25th, 1863, all emigrants must be conveyed from Bremen to Bremerhaven or Geestmünde, either by railway or by steamers (which is a great improvement on the old custom of sending them in small boats and barges from Bremen to the outports), and other regulations are laid down relative to the quality of food to be given to the emigrants, and to their treatment during the voyage. (Report of Mr. Ward, British Consul, on the Trade of Bremen, in Commercial Reports received at the Foreign Office, 1865.)

Bremen is possessed of a tract of territory lying round the city, on both sides the Weser, containing in all about 74 sq. m., with a pop., exclusive of that of the city, of 81,352, making the total pop. of the state, according to the census of 1862, 98,575. The land, which is low and marshy, intersected by canals, and very fertile, is mostly appropriated to pasture. The inhab. of the city and country are all Protestants, with the exception of a small number of R. Catholics and Jews. The executive government is vested in a senate of 14 members elected for life, and the legislative authority is in the hands of the assembly of burghesses (*Bürgerchaft*), composed of 120 members, chosen by the members of the 12 colleges or guilds of the city. A committee of 30 burghesses, presided over by a chairman elected for two years,

has the duty of representing the assembly in the intervals of the ordinary sessions. At the head of the executive are two burgomasters, who hold office for two years each and retire in rotation.

The public revenue for the year 1862 amounted to 1,642,843 thalers, or 246,426*l.*, and the expenditure to 1,671,251 thalers, or 250,687*l.* Very nearly one-half the revenue is raised by indirect taxes; while about the same amount is expended for interest and reduction of the public debt. The latter amounted, in 1862, to 11,734,165 thalers, or 1,760,124*l.* This sum includes a railway loan of 4,000,000 thalers, at 4½ per cent., negotiated in 1859. A peculiarity of Bremen is the payment of the income-tax, assessed at 1 per cent. of the income on all property above 500 thalers, or 75*l.* per annum. Only the first five thalers, or 15*s.*, are paid publicly to the tax gatherer; and whatever sum is due above this amount, the tax-payer has to throw secretly into a close box with a slit on the top, in such a manner that it is impossible to discover what each individual has actually paid. Notwithstanding this facility for fraud, it is found that the sums annually paid for income-tax surpass considerably the government estimates.

To the army of the Confederation Bremen has to contribute 748 men, of which 101 are cavalry. The whole of the troops of the infantry are enlisted for a term of five years, at a bounty of 200 thalers, or 30*l.*, with an annual pay of 40 thalers, or 6*l.*, besides board. The cavalry is contributed, according to the terms of a military convention, by Oldenburg, which state also furnishes most of the commissioned officers.

Bremen is said to have been founded in 788. She was long one of the leading towns of the Hanseatic league. In 1640, she was summoned to the diet, and allowed a seat and vote on the Rhenish bench, in the college of imperial cities. In 1648, at the treaty of Westphalia, the archbishopric to which Bremen had given name was secularised in favour of Sweden, who held it till 1712, when it was taken possession of by Denmark, by whom it was ceded to Hanover in 1731. Bremen acquired from the electors of Hanover a full recognition of its independence and other prerogatives, which had sometimes been disputed by the Swedes. In 1806, it was taken by the French; and from 1810 to 1813, it was the cap. of the department of the Mouths of the Weser. In 1815 the old republican form of government was restored by the congress of Vienna.

BRENTFORD, a town of England, co. Middlesex, hund. Ossulton and Elthorne, at the junction of the Brent with the Thames, 8 m. W. by S. London by road, and 10½ m. by South Western railway. Pop. 9,521 in 1861. The town consists of one long indifferently-built street, on the great W. road from the metropolis; a modern stone bridge connects it with the S. bank of the Thames, and another (built in 1824, on the site of one very ancient) spans the Brent, which divides the town into Old and New Brentford; the former in the parish of Ealing, the latter a distinct parish. The church at Old Brentford is dependent on that of Ealing; that of New Brentford is a chapel of ease to Hanwell: both are modern structures. There are several dissenting chapels, three endowed free schools, and two national schools. A weekly market is held on Tuesdays, and annual fairs 17th May and 12th September. There are flour-mills, a distillery, and an iron foundry in the town; the malting business is also carried on to some extent. These employ many of the inhabitants; the market gardens of Ealing employ others; and the traffic arising from its thoroughfare is considerable, and occupies another portion. The Grand Junction

tion Canal joins the Brent a little below Hanwell, and its communication is continued by it to the Thames, on which there are several wharfs, between the town and Kew Gardens. Brentford is usually considered the co. town, but it has no public hall, nor separate jurisdiction. There is a court of requests for debts under 40s. held during the summer half year in the town; during the other at Uxbridge; its jurisdiction extends over the hundreds of Elthorne and Spellthorne. It is the chief polling town, where the co. members are nominated.

BRESCIA (an. *Briaia*), a city of Northern Italy, cap. prov. same name, in the Garza, and near the left bank of the Mella, at the foot of the Alps, on the margin of the great plain of Lombardy, 51 m. E. Milan, and 80 m. NNE. Cremona, on the railway from Milan to Venice. Pop. 34,932 in 1862. The city is surrounded by walls and ramparts, and has a castle on a hill on an eminence within the walls: the streets are broad and straight, and its numerous squares, public buildings, palaces and fountains, give it an air of grandeur and magnificence. It is the seat of a bishopric; and has a fine modern cathedral of white marble, begun in 1604, and finished only in 1825; an elegant modern episcopal palace, and many churches and convents, some of which are ornamented with pictures by the masters of the Venetian school. The Palace of Justice (*Palazzo Pubblico*), built on the site of an ancient temple, is curious, as exhibiting that mixture of Gothic and Grecian architecture to be found in so many of the edifices of Northern Italy. It has also a fine museum of antiquities, a large theatre, a *monte-di-pieta*, a public library, lyceum, gymnasium, an atheneum, or academy of science and belles-lettres, with numerous hospitals and eleemosynary establishments, and no fewer than 72 public fountains. It is distinguished by its industry and trade. Near it are large iron works, and the arms and cutlery of Brescia have been long reckoned the best in Italy; it has also fabrics of silk, flax, paper, &c., with numerous oil-mills and tanneries. A fair commences annually on the 6th of August; and a large building is constructed outside for the accommodation of those frequenting the fair. Brescia has produced many eminent men, among whom may be specified Tartaglia, Mazzuchelli, and Agoni.

This city is very ancient. It is supposed to have been the cap. of the *Cenomani*, and it subsequently became a Roman colony and *municipium*. It was sacked by Attila. Being declared by Otho I. a free city, it was governed for nearly 300 years by its own consuls; but being distracted by the contests of the Guelphs and Ghibellines, it placed itself, in 1426, under the Venetian government. It was taken by the French during the League of Cambray, and having revolted, was retaken by them by storm in 1512, when it was given up to military execution. On this occasion, the Chevalier Bayard, the knight *sans peur et sans reproche*, was severely wounded. It has also been repeatedly laid waste by the plague and small-pox; and was in part destroyed, in 1763, by the explosion of a powder magazine. During the ascendancy of Napoleon, it was the cap. of the dep. of Mella. The congress of Vienna restored it, with the whole of Lombardy, to Austria; but the war of 1859, followed by the Treaty of Villafranca, united the city, with the surrounding province, to the new kingdom of Italy.

The chief interest of Brescia is derived from its antiquities. During excavations, begun in 1820 and continued till 1826, there was discovered a beautiful temple of white marble, adorned with columns of the Corinthian order: and under the

pavement was found a bronze statue of Victory, between 5 and 6 ft. high, represented as a very fine specimen of art.

BRESLAU, the second largest city of Prussia, cap. prov. Silesia, and of a regency and circ. of same name, at the confluence of the small river Ohlau with the Oder, and on the railway from Berlin to Cracow. Pop. 145,589 in 1861, exclusive of a garrison of 6,938 men. The city of Breslau comprises the old and new towns, with various suburbs, some of them built on islands of the Oder, and united to the body of the town by numerous bridges. Streets in the old town mostly narrow; but those in the newer parts are broad, and the houses good; while the number and magnificence of the squares and public buildings give it an air of splendour. Among the latter may be specified the cathedral, founded in 1148; the church of St. Elizabeth, with a spire 364 ft. in height; and several other churches; the *ci-devant* convent of the Augustines; the palace, now the government-house, built by Frederick the Great; the archiepiscopal palace, town-house, mint, Catholic gymnasium, theatre, Exchange Buildings, university, and barracks. A colossal statue in cast-iron of Marshal Blucher, by Rauch, was erected opposite to the Exchange Buildings in 1827, to commemorate the decisive and important victory gained by the Marshal and the Prussian landwehr under his command over the French under Macdonald, on the Katsbach, in 1813. The university was founded in 1702, and has, on the average, from 700 to 800 students. Breslau is the seat of government for the province, has a court of appeal for the latter and for the regency, a supreme council of mines, and other administrative establishments. Besides the university, it has a school of industry, of deaf and dumb, of surgery, one Catholic, and three Protestant, gymnasiums, a seminary for the instruction of school-masters, a school of architecture, a school of arts, and an immense number of inferior schools. The library of the university contains above 200,000 volumes, and there are several smaller collections all open to the public. There are a great number of richly endowed hospitals and other charitable institutions, among which may be specified one for faithful servants. It has numerous breweries and distilleries, with manufactures of linen, cotton, wool and silk, alum, soap, plate, jewellery, and is the centre of a very extensive commerce, being in some measure the *entrepôt* of the province. Exclusive of its own products, the greater part of the linens, cottons, and cloth manufactured in Silesia are disposed of at its fairs. Metals from the mines, and timber from the forests in the upper part of the province, are also brought here in large quantities, with flax and hemp, madder, and oxen from the Ukraine and Moldavia. Exclusive of its other fairs, two great fairs for the sale of wool are held annually in June and October. The first of these is the greatest fair of its kind in Germany, the quantity sold being usually about 6,000,000 lbs. During its continuance, the town, owing to the number of persons in the Oriental costume, has a good deal of the appearance of an eastern city.

The fortifications with which Breslau was formerly surrounded were demolished by the French. The ramparts have since been levelled, planted, and laid out in public walks; the bastions have been converted into terraces; and the ditch into an ornamental sheet of water, to the great embellishment of the city.

Breslau is one of the most animated towns in Prussia. The inhabitants are evidently wealthy; and the increasing number of new buildings,

ornamented villas, and pleasure-grounds in the vicinity, attest its growing prosperity. It is salubrious; provisions are abundant and cheap; education excellent; the people intelligent, frank, and sociable; the literary institutions numerous and easily accessible; and the country round beautiful. The *conditoria*, or coffee-houses, are very splendid. Dram-drinking is prevalent, and spirits constitute the principal beverage of the lower classes, although of late the consumption of malt liquors, particularly of Bavarian beer, or what is known as lager-beer, has greatly increased.

Breslau was taken from Austria by Frederick the Great, in the course of the Seven Years' War, and has ever since formed part of the kingdom of Prussia.

BRESSAY, one of the Shetland islands, which see.

BRESSUIRE, a town of France, dép. Deux Sèvres, cap. arrond., on a hill, at the foot of which is the Dolo; 19 m. NW. Parthenay. Pop. 2,963 in 1861. The town is the seat of a tribunal of primary jurisdiction, and of an agricultural society. It was formerly fortified and defended by a castle, but which was destroyed in 1793, when the town was burnt to the ground, with the exception of the church and of a single house.

BREST, a strongly fortified marit. town of France, dép. Finistère, cap. arrond. of the same name, occupying the foot and declivity of a steep hill, on the N. side of a spacious bay, near the extremity of the peninsula of Brittany; 30 m. NW. Quimper, 132 m. WNW. Rennes, and 314 m. WSW. Paris by road, and 325 m. by Western railway, of which it is the terminal station. Pop. 67,933 in 1861. The town, inclusive of its suburb Recouvrance, from which it is separated by the river Penfeld, is about 3 m. in circuit, and of a triangular shape. Brest proper (situated on the E. as Recouvrance is on the W. side of the river) is naturally divided into the upper and lower town: in the first, which is the most ancient portion, though containing a considerable number of good modern edifices, the streets are irregular, crooked, and narrow, and the houses so unevenly placed, that the gardens of some are on a level with the fifth stories of adjacent ones. In some places the declivity is so rapid, that the road to the lower town is formed by flights of steps. In the lower town many of the streets near the port are well laid out, clean, and healthy; elsewhere they are quite the reverse. Recouvrance, although improved latterly, offers but an unfavourable contrast to Brest. The ramparts which surround the town are planted with trees, and form a pleasant promenade, with fine views toward the harbour. The port, or inner harbour, formed by the mouth of the Penfeld, is lined by good quays adorned with large and handsome stone buildings. It is landlocked, capable of accommodating 50 frigates and other vessels, and is protected by formidable batteries, and by an ancient castle on a rock at its entrance. A large portion of Brest is occupied by marine establishments. It has a noble arsenal established by Louis XIV., excellent docks for building and repairing ships, large rope walks, and various magazines for the stores necessary to the fitting out of a navy, with marine barracks and a hospital. In the upper part of the town is the *Bagne*, a building for the reception of convicts sentenced to the galleys; and the largest edifice of its kind in France. It is 277 yards in length; its centre and extremities are occupied by the various officers having charge of the convicts; the intermediate spaces are separated into four divisions, each capable of lodging 500 men.

It combines security with salubrity. But despite the severe discipline enforced in this prison, it is said to be rather demoralising than reformatory. Among other public buildings are the parish church of St. Louis, with a handsome altar, the town-hall, and the theatre. There are several public fountains, one of which is ornamented with a fine statue. Brest is the seat of a tribunal of original jurisdiction, and the residence of a sub-prefect, a maritime prefect, and other functionaries. It contains two public libraries, a cabinet of natural history, botanic garden, and observatory, schools of naval artillery, navigation, medicine, surgery, and pharmacy, societies of agriculture and emulation, a tribunal of commerce, and an exchange.

The outer harbour or road of Brest is one of the finest in the world. It is of great extent, being capable of accommodating the largest navies, and has deep water throughout. The channel, *Le Goulet*, by which it communicates with the ocean, is only 1,805 yards across, defended on either side by very strong batteries; and it is further strengthened by having a rock in its centre, which obliges ships to pass close under the guns of the batteries. Several small rivers discharge themselves into the outer harbour, by one of which, the Châteaulin, there is an inland communication with Nantes. Brest has some tanneries and manufactures of glazed hats; and a fleet of fishing boats for pilchards, cod, and mackerel. Its commerce is comparatively trifling, and mostly confined to supplying provisions to the marine: there is, however, some trade in grain, fish, and salt; and a fair for cattle, leather cloths, and similar articles, is held monthly.

This town is affirmed by some authorities to be the *Brivates Portus* of the Romans; but of this there is considerable doubt. It was of little consequence till it was fortified by a duke of Brittany in the 11th century. It was assigned to the English, in 1372, by John IV. duke of Brittany, and was held by them till 1397. In 1489 it was taken by the French; and was soon after permanently united to the monarchy by the marriage of Charles VIII. with Anne of Brittany. Cardinal Richelieu, being sensible of its great natural advantages for a naval station, began, in 1631, the construction of the fortifications and magazines, which were completed by Vauban, in 1680. In 1694, an English and Dutch force that had attacked Brest, was defeated with great loss. The space included within the fortification was considerably enlarged in 1772. The Emperor Napoleon III. visited Brest in 1858, when orders were given for the construction of a new commercial harbour between the Château and L'ance de Kerhuon. The new port—intended to be an outer naval harbour in time of war—was completed in 1865.

BRETEUIL, a town of France, dép. Eure, cap. cant., on the Iton, 16 m. SW. Evreux. Pop. 2,108 in 1861. The country abounds in iron mines, the working of which, and the smelting, &c., of the ore, afford abundant employment for the inhabitants.

BRETEUIL, a town of France, dép. Oise, cap. cant., at the source of the Annoy, 16 m. NE. of Beauvais. Pop. 2,904 in 1861. The town is ill-built, ill-paved, and dirty. There are manufactures of woollen stuffs, paper, and shoes, for the use of the troops and hospitals of Paris. It is very ancient, and was once fortified and had a castle; but few vestiges of the latter or of the fortifications now exist. Its ancient abbey still remains. There are some fine nurseries in the environs.

BRETIGNY, a hamlet of France, dép. Eure et

Loir, 6 m. SE. Chartres. It is remarkable for a treaty of peace, concluded between France and England in 1360, which restored John, king of France, to his freedom, lost at the battle of Poitiers, in 1356, when he was made prisoner by the English.

BRETTEEN, or **BRETHEIM**, a town of the grand duchy of Baden, cap. bailiwick, 12 m. E. Carlsruhe, on the railway from Carlsruhe to Stuttgart. Pop. 8,206 in 1861. The town is remarkable as being the birth-place of the learned and amiable reformer Melancthon. The house where he was born, in 1497, is still to be seen in the market-place, with a statue and an inscription erected to his memory in 1705. This town suffered much during the wars of 1632 and 1689.

BRIANÇON, a strongly fortified town of France, dép. Hautes Alpes, cap. arrond., on the Durance, 50 m. ESE. Grenoble. Pop. 4,510 in 1861. This is the highest town in France, being 4,280 metres above the level of the sea. From its commanding a practicable defile, leading from Piedmont into France, it has always been looked upon as one of the keys of the kingdom on the side of Italy. In consequence no expense has been spared on its fortifications, which are now deemed all but impregnable. They consist principally of strong forts built on the contiguous heights, and which command all the approaches to the town. The two principal forts, *Trois-Têtes* and *Randovillet*, communicate with each other and with the town by a bridge of a single arch 130 ft. (40 metres) in span, thrown over a deep ravine. With the exception of a single street, the town is ill-built, gloomy, and dirty. It has a tribunal of primary jurisdiction, and a departmental college; with fabrics of cotton goods, hosiery, steel and cutlery.

BRIANSK, a town of Russia in Europe, gov. Orel, cap. distr., on the Deana, 55 m. W. Orel; lat. 53° 16' N., long. 34° 24' E. Pop. 12,399 in 1858. The town is very prosperous, having doubled its population in the course of less than twenty years. It has numerous churches, a foundry of cannons, tanneries, and there is in the vicinity a manufactory of arms. The neighbouring forests supply fine timber.

BRIARE, a town of France, dép. Loiret, cap. cant., on the Loire, at the point where it is joined by the canal of Briare, 25 m. S. Montargis on the railway from Paris to Lyons *via* Roanne. Pop. 8,927 in 1861. The canal, to which the town is indebted for its importance, is the oldest work of the kind in France, having been begun in the reign of Henry IV., though it was not finished till 1740. It establishes, by means of its junction with the canal of Loing at Montargis, a communication between the Loire and the Seine; and conveys the various products of the prov. watered by the former to Paris.

BRICQUEBEC, a town of France, dép. La Manche, cap. cant., 8 m. WSW. Valognes. Pop. 3,969 in 1861. It has in its environs a copper mine.

BRIDGENORTH, a bor. and town of England, co. Salop, hund. Stottesden, on the Severn, 125 m. NW. London by road, and 149½ m. by Great Western and West Midland railway. Pop. of parl. bor. 7,699, and of municipal bor. 6,240 in 1861. It is divided by the river into the upper and lower towns; the former is built up the acclivities and on the summit of a rock, rising abruptly from the W. bank of the stream to the height of 180 ft. Ranges of detached houses, many of which are handsome modern structures, are built each over the other, so that the roofs of one range are lower than the foundations of the next above it, from the base to the summit of the precipice; with

these are intermixed other dwellings, excavated in the rock itself; rude caverns, gardens, and trees. Crowning the summit, at the S. end, is the square ruined tower of the ancient castle, leaning considerably from the perpendicular; and the church of St. Mary Mag., a handsome structure, with a lofty tower and cupola, built in 1792. At the N. end is the ancient church St. Leonard, with a square pinnacled tower, built in 1448. Half-way between the two churches is a reservoir, raised on lofty brick columns, and looking at a distance like a handsome portico: to this tank, water is forced by machinery from the river, to supply the upper town. There are several good streets leading from the high street to the churches; and parallel over these are others of a like character. A carriage road winds round the rock, and several flights of almost perpendicular pebbled steps, secured in iron framing, lead up through the rock into the interior of the town. The whole has a singularly picturesque effect, and from the palisaded wall round the castle hill, extensive and diversified views are commanded over a fertile and romantic district. A handsome stone bridge of six arches connects the lower with the upper town. Its streets have an intermixture of ancient and modern houses. St. Leonard's church is endowed with 600*l.* private benefaction, and 1,100*l.* public grant. St. Mary's, formerly the castle chapel, and exempted by king John from all ecclesiastical jurisdiction, is endowed with 200*l.* private, and 1,500*l.* public grant: both are curacies in private patronage. The Baptists and Independents have each a chapel. There is a free grammar-school, founded in 1503, which educates 10 scholars, and has three exhib. to Christ Church, Oxford; a bluecoat school, in a building over one of the ancient gateways, where 30 boys are clothed, educated, and apprenticed; and a national school, supported by subscription, for 200 boys and 150 girls. The hospital of St. Leonard supports 10 aged widows; and endowed almshouses, with 158*l.* a year, maintain 12 burghesses' widows. The town-hall, in the middle of the principal street, erected 1646, is a spacious old building of timber frame-work and plaster, raised on brick pillars and arches: the corporation meetings and courts are held in it, and the market in the covered area underneath. There is a gaol, built by the corporation in 1823. A neat theatre, built about the same period, stands in the castle moat, and there is also a public library, with a good collection in general literature. The weekly market is held on Saturday; and there are seven annual fairs. There is a carpet manufactory, and another for tobacco-pipes, in the town. Its iron trade has declined, but nails are still made to some extent; and vessels are also built for the navigation of the Severn. The greater part of its labouring pop. are employed upon the river. It has a spacious line of quay N. of the bridge, and offers every facility for the transit of goods, so that large quantities of corn, malt, beans, &c., are sent thither from various parts of the country, and it has become a thriving inland port: its retail trade is also very considerable.

Previously to the Municipal Reform Act the government was nominally vested in 2 bailiffs, 24 aldermen, and the whole of the burghesses, whose number (including the former) was 634; but in reality it was a self-electing body of 14. It is now governed by a mayor, 4 aldermen, and 12 councillors. Borough income, 1,995*l.* in 1861. Amount assessed to property tax 34,954*l.*; gross rental assessed to poor rate, 32,363*l.* Petty sessions for the bor. are held every alternate Monday, and general sessions once a year; but no felonies are tried. A court of record is held on the same days

as the petty sessions, which takes cognisance of actions to any amount; but not more than three a year are entered.

Bridgenorth has returned two mem. to the H. of C. from the 23rd Edward I. Previously to the Reform Act the elective franchise was vested in the corporation and freemen, of whom there were 634. In 1861, the constituency consisted of 656 registered electors, including 305 old freemen.

Bruges was the ancient name of the borough, from a Saxon bridge over the Severn, which was destroyed to prevent the incursions of the Danes. A new bridge was subsequently erected, $1\frac{1}{2}$ m. N. of the old site; and hence the present name originated. The Earl of Shrewsbury built the walls, in which were six gates, in the reign of Will. II.; the castle was built in that of Hen. II., and it has since undergone many sieges. Dr. Percy, bishop of Dromore, was born here in 1728.

BRIDGEPORT, a town and sea-port of the U. States, Connecticut, on Long Island Sound, at the mouth of the Pequannock, $17\frac{1}{2}$ m. SW. Newhaven. Pop. 8,105 in 1860. The town has a considerable trade. Among the principal buildings is the church of the Anabaptists, who are numerous here.

BRIDGETOWN, the cap. of Barbados, which see.

BRIDGETOWN, or BRIDGETON, a town and sea-port of the U. States, N. Jersey, on the Cohanzy, 20 m. above its entrance into the Delaware, and 56 m. S. Philadelphia. Pop. 8,300 in 1860. The town has a good trade, with a foundry, and manufactures of glass and earthenware.

BRIDGEWATER, a bor., par., and sea-port of England, co. Somerset, hund. N. Petherton, on the Parret, about 7 m. in a direct line, and 12 m. by water, S., from its embouchure in Bridgewater Bay, in the Bristol Channel, 28 m. SSW. Bristol; and $15\frac{1}{2}$ m. W. London by Great Western railway. Pop. of borough 11,820, and of parish 12,120 in 1861. The town is situated in a fertile well-wooded plain of considerable extent, having E. the Mendip, and W. the Quantock hills; it is built on both sides the stream, but chiefly on the W., the 2 parts being connected by a handsome iron bridge of 1 arch. That on the W. bank has a remarkably neat appearance, the houses being well and uniformly built, and the streets spacious, clean, and well paved; the other (Eastover) is inferior in these respects, but has also of late years been much improved: the whole is lighted by gas, and well supplied with water from many fine springs. The church is an ancient Gothic structure, with an embattled tower and lofty spire; there are chapels for Baptists, Friends, Independents, Wesleyans, Quakers, and Unitarians; a free grammar-school (founded by Elizabeth in 1561), and two other endowed schools, each of which educates about 80 children; almshouses, with an endowment of about 18*l.* a year; and an infirmary, established 1813, and supported by subscription. The judge's mansion is a handsome modern edifice, in which the courts of justice are held; the market-house is also a good recent building, with a dome and Ionic portico. There is a spacious quay, accessible to vessels of 200 tons; but the entrance to the harbour is difficult. The tide in the river frequently rises to a great height, rushing forward with a perpendicular front and with extraordinary velocity. There are 3 weekly markets: Tuesday, for vegetables; Thursday, corn and cattle; Saturday, general provisions. Fairs are annually held on the first Monday in Lent, July 24, Oct. 2 (the principal one), and Dec. 27; they are for linen and woollen goods, cattle, and general merchandise. The imports from foreign parts consist chiefly of

wines, hemp, tallow, and timber. The imports, coastwise, consist of groceries, general merchandise, and coals; the exports, of agricultural produce. The shipping of the port, in 1863, consisted of 3,589 vessels, of 162,616 tons, which entered, and 2,342 vessels, of 66,440 tons, which cleared. Among the vessels which entered were 243 steamers, of 21,388 tons, while the clearances included 242 steamers, of 21,266 tons. The customs duties in 1863 amounted to 7,794*l.* The Taunton and Bridgewater Canal connects the two places. Considerable quantities of Welsh coal are conveyed by it inland, and the agricultural produce of the fertile district round Taunton, brought for shipment to Bristol and other ports. A great quantity of bricks are made in the vicinity, both common and of a peculiar kind, and large size, resembling Bath-stone. The town is divided into 2 wards, and governed by a mayor, 6 aldermen, and 18 councillors. Courts of pleas and of petty sessions are held every Monday, and of general sessions quarterly, for the bor. It is the seat of a county court, before which 752 plaintiffs were entered in 1848. The general quarter sessions for the co., in summer, and the co. assizes, once in 2 years, are also held in the town: at such times its gaol is usually crowded, otherwise it has few prisoners. It has sent 2 mem. to the H. of C. since the 23 Edw. I.; the right of election, previously to the Reform Act, being in the inhabitants paying scot and lot, and having resided in the town for a certain period; the constituency in 1861 consisted of 591 registered electors. The revenues of the corporation are derived from market and fair dues, tithes, and rents, and average about 2,000*l.* a year. The living is a vicarage, united with the rectory of Chilton Trinity, and in the gift of the crown. Bridgewater is a polling place for the E. division of Somerset, and the central town of a union under the Poor Law Amendment Act. The net rental assessed to poor rate was 28,148*l.* in 1861, and the amount assessed to property tax 39,931*l.*

The town derives its name from Walter de Donay, to whom it was granted by William I., and is spelt 'Burg' and 'Brugge' Walter, in the old records. In the great civil war it sided with the king, and being well fortified and provisioned, was the depository of much valuable property, sent thither for security; all of which, together with 1,000 prisoners, fell into the hands of Fairfax, after an obstinate resistance. The ill-fated Duke of Monmouth was proclaimed king at Bridgewater, previously to his defeat and capture at the Battle of Sedgemoor. The famous Admiral Blake, one of the greatest of the naval heroes of England, was a native of this town, having been born here in 1599.

BRIDLINGTON, a market to. of England, E. riding co. York, 37 m. ENE York, 24 m. N. by E. Hull, 196 m. N. London by road, and 245 m. by Great Northern railway. Pop. 5,776 in 1861. The town, which is about a mile from the sea-coast, consists of one long street, with some smaller streets narrow and irregularly built. A priory, erected in the early part of the reign of Henry I., at the E. end of the town, is, though much decayed, a venerable and magnificent specimen of the old English church architecture. It was endowed with very large estates: its last prior being convicted of high treason, was executed in 1537. A part of it, used as the parish church, accommodates above 1,900 persons. The other places of worship are those of the Wesleyan and Primitive Methodists, Baptists, Independents, Presbyterians and Quakers. The schools are, a free

grammar-school, founded in 1687; two large national schools, an infants' school, and a school of industry, founded in 1781, to instruct poor children in carding, knitting, and wool spinning. A detached building, which formed part of the priory, is used for a town-hall and prison. Besides a brisk retail trade, an extensive corn trade is carried on. The business is transacted in the Exchange, a neat commodious building. Hats are also manufactured here, and in the neighbourhood are several wind and water mills, and a steam-mill for grinding bones. The malt trade, which was formerly very extensive, is much fallen off. Markets are held on Saturdays, and a cattle market every fortnight; fairs on the Monday before Whitsunday, and Oct. 21. Bridlington is a station for receiving votes at elections for the E. Riding. The banks are, a branch of the York Union, and a private banking house. Bridlington Quay is a neat village, about a mile from Bridlington, and forms an ecl. district, with a pop. in 1861, of 2,677. Its principal street, which is very broad, leads directly to the harbour, where there is excellent anchorage: it is defended by two batteries. Here are hot and cold baths, and a chalybeate spring, whose medicinal properties are highly esteemed. An ebbing and flowing spring, discovered in 1811, supplies the inhabitants with abundance of excellent water. The port is a member of that of Hull, and has a neat custom-house on the quay. It is much frequented in summer by visitors for sea-bathing.

BRIDPORT, a bor. and sea-port of England co. Dorset, hund. Bridport, 127 m. WSW. London by road, and 163 m. by Great Western Railway. Pop. 7,719 in 1861. The town lies in a fertile vale encircled by hills, between the Brit and Asher, which are crossed by several bridges, and unite a short distance below the town. It consists chiefly of three main streets, well lighted and paved, with many handsome modern houses on either side. The church is a cruciform structure of the later Gothic, with an embattled and pinnacled tower in the centre. The Friends, Independents, Wesleyans, and Unitarians, have each chapels. The town-hall where the council meet, and the borough sessions are held, is a handsome modern edifice in the centre of the place; there is also an endowed free school, founded 1708, and an almshouse, founded 1696. The pier harbour is about one m. S. of the town, between Lyme and Portland, and is safe and commodious, though rather shallow. An act, passed in 1722 for restoring its piers, and forming a sluice, was carried into effect in 1742, the corporation being trustee. In 1822 another act passed, by which several private persons were joined with the corporation in the trust, and the harbour was then materially improved and enlarged, at an expense of nearly 20,000*l.*, and is now suitable for vessels of 200 tons; since which the increase of its trade has been progressive. In 1832 it was made independent of Lyme, within whose jurisdiction it had previously been, and established as a bonding port. The customs duties amounted to 2,759*l.* in 1863. The manufactures are—twine, lines, and fishing-nets, for the home and colonial fisheries, and sail-cloth and shoe thread: these employ several hundred persons. The exports consist chiefly of those manufactures, and of butter and cheese, the produce of the neighbourhood. The imports comprise hemp, flax, and deals, from the Baltic; tallow, skins, coal, culm, slate, wines, spirits, and groceries, coastwise. There entered the port, in 1863, 100 sailing vessels, of 8,845 tons burden, and there quitted 15 sailing vessels, of 675 tons. There are 2

weekly markets (Wednesday and Saturday), and 8 fairs (April 6, Holy Thursday, and Oct. 10; chiefly for horses, cattle, and cheese). The bor. is divided into 2 wards, and governed by a mayor, 6 aldermen, and 18 councillors: the revenue of the corporation derived from market dues and rents amounted to 490*l.* in 1861. Bridport has sent 2 mem. to the House of Commons since 23 Edw. 1. Previously to the Reform Act the right of election was vested in the householders paying scot and lot, the number of voters being nearly 300. In 1865 it had 461 regist. electors, including 16 scot and lot voters. Amount assessed to property tax 19,275*l.* in 1861. Bridport was a borough during the Saxon period: at the time of the Domesday survey it had 100 houses, a mint, and an ecclesiastical establishment. Its staple manufacture is of remote origin; Camden notices a special law of Henry the Eighth's reign, by which the navy was to be exclusively supplied with cordage made at Bridport; and Gibson, in a note on the passage, speaks of the failure of an attempt in his day to form a harbour (Giba. Ed. Brit. 170.) It confers the title of viscount on the Hood family.

BRIE-COMTÉ-ROBERT, a town of France, dep. Seine et Marne, cap. cant., near the Yères, 10 m. NNW. Melun. Pop. 2,881 in 1861. The town was built by Robert of France, count of Dreux, to whom his brother Louis VII. gave the lordship of Brie. Its old feudal castle has been demolished. The parish church, founded in the 13th century, is remarkable for the height of its tower. The Hôtel Dieu is nearly of the same age as the church.

BRIEG, a fortified town of Prussia, prov. Silesia, cap. circ., on the Oder, about half way between Breslau and Oppeln, and on the railway from Breslau to Vienna. Pop. 12,970 in 1861. The town is situated on an elevated bank of the river, over which it has a wooden bridge, and is well built and thriving. Principal public buildings, a gymnasium, formerly a university, to which is attached a good library, a lunatic asylum, with several churches and hospitals. It has extensive manufactures of linens, woollens, and cottons, and carries on a considerable trade.

BRIEL or **BRIELLE**, a fortified sea-port town of the Netherlands, prov. S. Holland, cap. arrond., on the N. shore of the island of Voorn, near the mouth of the Maese, 13 m. W. Rotterdam; lat. 51° 54' 11" N., long. 4° 9' 51" E. Pop. 4,304 in 1861. It is a handsome well-built town; is strongly fortified; has a good harbour, a tribunal of primary jurisdiction, and sends a deputy to the states of the province.

The Briel is remarkable in Dutch history for being the place where the first foundation of the republic was laid. The exiles from the Netherlands, who had taken refuge in England from the persecutions of the Duke of Alva, were ordered by Queen Elizabeth, in consequence of the urgent representations of Alva, to leave this kingdom. Being thus driven to despair, they assembled a small fleet at Dover, under the command of William de Lumey, Count de la Marck, and resolved, if possible, to get possession of some place of strength in their native country. Their original intention was to make an attempt on Enchuyzen; but the wind being unfavourable, they cast anchor before Briel, of which they took possession on the 1st of April, 1572. Thus was struck the first blow in that apparently most unequal and long-continued struggle between Holland and Spain, that ended in the independence of the former; a struggle which, whether we consider the sacrifices and perseverance of the weaker party, or the beneficial

consequences of their success, is, perhaps, the most extraordinary and important of which history has preserved any account. (For an account of the capture of Briel, see Watson's Philip II., i. p. 427, 8vo. ed.)

Briel was the birth-place of the heroic Admiral Van Tromp, who fell in an engagement with the English, under Blake, off the Texel, on the 8th of Aug., 1653.

BRIENNE, a town of France, dép. Aube, cap. cant., on the great road from Paris to Chaumont, 15 m. NW. Bar-sur-Aube. Pop. 2,057 in 1861. The town has a fine castle, erected a short while previously to the Revolution, by the minister Lomenie de Brienne. It stands on an artificial plateau, and commands an extensive view. Napoleon I. received the first rudiments of his education in a military academy that formerly existed in this town, but which was suppressed in 1790; and here, in 1814, in an engagement with the Russians and Prussians, he was in imminent danger.

BRIEUC (ST.), a sea-port town of France, dép. Côtes-du-Nord, of which it is the capital, on the Gouet, near its embouchure in the Bay of St. Brieuc, 38 m. WSW. St. Malo, on the railway from Paris to Brest. Pop. 15,341 in 1861. The port of St. Brieuc, at the mouth of the river at the village of Ligoué, has a handsome quay, and a commodious harbour, accessible to vessels of 350 tons. The town is pretty well built. The cathedral, a Gothic edifice, was begun in 1220, and finished in 1234; there are, also, a hôtel de ville, an hospital on a large scale, a workhouse, and a theatre. The bridge over the river is a handsome stone structure of three arches. There are some good squares and fine promenades. St. Brieuc is the seat of a bishopric, and of tribunals of primary jurisdiction and commerce; and it has a departmental college, a diocesan seminary with 160 pupils, a school of arts, and a public library with 24,000 volumes. There are in the town fabrics of linen, serge, flannel, and paper, with tanneries and breweries. The inhabitants used to employ a considerable number of ships in the whale and cod fisheries, particularly the latter, but this industry has greatly declined of late years, chiefly, it is stated, on account of the strict laws of maritime conscription, which impresses the greater part of the rising generation for the Imperial navy. The coast fishery, however, is still carried on to a considerable extent. Horse races were established here in 1807, and are kept up with great spirit.

BRIGHTON, formerly BRIGHTHELMSTONE, a fashionable marit. town and parl. bor. of England, co. Sussex, rape Lewes, hund. *Wellbourne*, vulg. *Whalesbone*, 47 m. S. London by road, and 50 m. by London, Brighton and South Coast railway. Pop. 24,429 in 1821; 41,994 in 1831; 46,661 in 1841; 69,673 in 1851; and 87,317 in 1861. The latter is the pop. within the bounds of the parl. borough; that of the municipal borough was 77,693 in 1861. Brighton—the modern *Bain*—is situated on the coast of the British Channel, between Beachey Head and Selsey Bill. It is of an irregular shape, being built along the shore, and on the slopes of a gentle valley, the centre of which, the *Steyne*, a long, narrow slip of land, lying N. and S., divides the town into the E. and W. portions. In this valley are the Pavilion, and St. Peter's Church; a statue of George IV. by Chantrey, and a handsome fountain constructed in 1846. The town E. the *Steyne*, has been wholly built within the last eighty years. Along the cliffs, which in this part rise high above the sea, has been formed a very beautiful marine promenade. A wall of immense thickness (at the

foundation 30 ft. wide), and from 60 to 70 ft. high, formed of concrete, protects a fine pavement, and a road upwards of 100 ft. in width. From the extreme E. entrance of the town, this magnificent promenade and drive is skirted to the *Steyne* by large mansions, and lodging-houses of the first description. Among others are those of Kemp Town, and its squares, a splendid range, forming three sides of a quadrangle, and having a row of houses, of similar architectural character, diverging from either extremity: the spacious area in front is laid out in walks, and has an arched passage communicating with the beach, the crescent, and various spacious streets, opening from the line of cliff to the northward. West of the *Steyne* is the old town, consisting principally of old and irregular buildings. Many of these have, however, been pulled down, and on the sites of some of them, a new market was constructed in 1829, and a town-hall in 1831; but the latter, though large, and making a good appearance externally, is not well adapted for public meetings. In every direction round the old town new streets and squares have been erected; particularly along the line of coast, called the King's Road to Hove, where, facing the sea, are some fine ranges of mansions, including Bedford Square, Regency Square, Brunswick Terrace and Square, Adelaide Terrace, Royal Crescent, Palmeira Square, and numerous others. The cliffs, along this part of the coast, rise only a few feet above the highest part of the beach: in their front is a fine promenade, and, below this, a level space of green sward reaching down to within a short distance of the water. On the Lewes road are Hanover Crescent, Richmond Terrace, the Grand Parade, and Park Crescent, recently erected on the site of the Royal Gardens and Cricket Ground. On the London road are York and St. George's Places, and many structures in the cottage style. The palace called the Pavilion, was begun by George IV. when Prince of Wales, in 1784, and completed in 1827; it is in the oriental style, being copied from the Kremlin at Moscow; its stone front extends 200 ft.; it has a circular building in the centre, surmounted by a pillared dome. The Chapel Royal is on the W., and behind is a circular range of stables in the Arabian style, lighted by a glass dome. The palace is shut out from the view of the sea by the Albion Hotel and other buildings; and little can be said in favour of the taste displayed in its erection. This building and the ground attached to it, comprising about seven acres, have been purchased by the town, at a cost of 53,000*l.*, and the place has been converted into reading and assembly rooms, and a sort of refuge for miscellaneous entertainments. The old church of great antiquity, a mean fabric, partly in the ornamented and partly in the later Gothic style, has a low, massive, square tower, which, as it stands on a hill 150 ft. above the sea, serves as a landmark for vessels. St. Peter's church, an elegant Gothic structure, completed in 1827, at the public expense, has upwards of 1,100 free sittings. Besides these, there are 19 other churches, and 28 chapels, for Roman Catholics, Huntingdonians, Quakers, Independents, Baptists, Scotch Seceders, and Wesleyan and Whitfield Methodists. There are numerous free schools, partly supported by subscriptions and partly endowed, with orphan, national, infant, and ragged schools. Among the other educational establishments are Brighton College; the Diocesan Training College, on the cliffs; St. Mary's Hall, for clergymen's daughters; and the Dissenters' Proprietary College. The County Hospital, in the neighbourhood of the college, is a large and well supported establishment. There are baths of all kinds, constructed

with every regard to comfort and convenience, as well as numerous bathing machines. The German Spa, in a valley facing the sea, at the foot of the Row Hill, was established in 1826, for the preparation of artificial mineral waters, in imitation of the natural springs at Carlsbad, Ems, Marienbad, and Pyrmont.

All classes of visitors find suitable accommodation here, in furnished lodgings, inns, and hotels; of all which there is every variety, from those of the most superb and expensive character, to the plainest and most economical. On the Downs is a well kept course, where races are held the first week of August. There are many fine promenades; amongst them, a very favourite one is the suspension chain-pier, constructed in 1821, at an expense of 80,000*l.*: the pier head is 60 ft. by 20, and has seats and awnings, with galleries and flights of steps, to facilitate landing and embarkation at different stages of the tide; the pier itself is 1,200 ft. in length by 14 ft. in width; and an esplanade of the same length, 40 ft. wide, connects it with the Steyne. Brighton has no harbour, and no maritime trade; but about 150 boats are employed in fishing. Mackerel, herrings, turbot, soles, and skate are caught in considerable quantities, and in part supply the London markets. The intercourse with the metropolis, formerly effected by fast coaches, has increased immensely since the opening of the railway, by which frequently 20,000 persons are carried down in a day, in so-called 'excursion' trains.

The Reform act conferred on Brighton the privilege of returning two members to the H. of C. The parl. bor., inc. the parishes of Brighton and Hove, extends over 2,320 acres. Registered constituency, 5,627 in 1865. By a charter dated 1st April, 1854, the municipal borough is divided into 6 wards, and governed by a mayor, 12 aldermen, and 36 councillors. Borough income, 59,494*l.* in 1861; amount assessed to property tax 564,205*l.*

Brighton has three banking establishments, and a Savings' Bank. The town supports seven newspapers.

For some centuries Brighton was a mere fishing village, and was frequently attacked and plundered by the French; to prevent which, Henry VIII. erected some fortifications, which were strengthened and extended by Eliz. But it has suffered more from the action of the sea undermining the cliffs, than from anything else. 'In the reign of Elizabeth the town of Brighton was situated on that tract where the chain-pier now extends into the sea. In 1665, 22 tenements had been destroyed under the cliff. At that period there still remained under the cliff 113 tenements, the whole of which were overwhelmed in 1708 and 1705. No traces of the ancient town are now perceptible.' (Lyell's *Geology*, i. 413, ed. 1835.) The great sea-wall, noticed above, was constructed to prevent the encroachment of the sea on the eastern cliffs, on which it was making the most serious inroads.

Brighton began to come into repute in the reign of George II. as a watering and sea-bathing place, principally through the writings of Dr. Richard Russell, an eminent physician of that day. In 1760 the chalybeate spring was observed, which tended to increase its growing popularity. No doubt, however, it was principally indebted for its rapid rise, and for the high rank it has long continued to hold among watering and fashionable places, to the zealous and continued patronage of George IV. when Prince of Wales, and when regent and sovereign. It has nearly quadrupled its population in the course of half a century, as will be seen from the census returns before given; and the advantages it enjoys in its situation, and in its

being the nearest port on the S. coast to London, will probably insure its prosperity.

BRIGNOLES, a town of France, *dép.* Var, cap. arrond., on the Carami, 22 m. NNE. Toulon. Pop. 6,143 in 1861. The town is neat and well built, and is finely situated in a fertile basin, surrounded with high wooded hills. Its principal ornament is its magnificent public fountain, in the square Carami. It has a tribunal of primary jurisdiction, a primary normal school, a secondary ecclesiastical school, a public library, and a society of agriculture, with filatures of silk, fabrics of wine, candles, and tanneries. A considerable trade is carried on in olive-oil, wine, liqueurs, brandy, and excellent prunes, known by the name of *brignolles*.

BRILLON, a town of Prussia, *prov.* Westphalia, *reg.* Arnsberg, cap. circ. 24 m. SE. Soest. Pop. 4,300 in 1861. The town has two churches, a college, an hospital, and fabrics of linen and brass. In the environs are mines of silver, lead, and calamine.

BRINDISI (an. *Brundisium*), a sea-port and city of Southern Italy, *prov.* Lecce, cap. distr., at the bottom of a bay between capes Cavallo and Gollo, and on the railway from Trani to Lecce and the gulf of Taranto. Pop. 8,844 in 1862. In antiquity this was one of the most important cities of Italy, and was the port whence the intercourse between Italy and Greece, and the East, was usually carried on. It owed this distinction as much to the excellence of its harbour as to its situation: but in modern times it is sadly changed for the worst. It is still of great extent within the walls; but the inhabited houses do not occupy above half the inclosure. The streets are crooked and rough, and the houses poor and in disrepair. With the exception of the citadel, a large heavy-looking cathedral, and a few remains of antiquity, there is nothing in it that deserves attention. This melancholy change has been produced by the nearly total loss of the inner harbour. This, which encompasses the city on two of its sides, and is deep and capacious, was united to the outer harbour, or bay, by a narrow entrance, like that leading to Portsmouth harbour or the Havannah. Unfortunately, however, this entrance having been nearly shut up, the inner harbour was in consequence rendered inaccessible to all but the smallest vessels, and in summer became fetid and unhealthy. Julius Caesar, who attempted to block up Pompey's fleet that had met in the inner harbour, by running mounds into its outlets, may be said to have commenced the ruin of Brindisi, which was completed in the 15th century by a prince of Taranto, who sunk vessels filled with earth and stones in the passage left open by Caesar. The destruction that was thus brought on the town and its offsets roused at length the attention of the Neapolitan gov., by whom a vigorous effort was made in 1776 to obviate the cause of the mischief, by cutting a new channel between the two harbours. But owing, as it would seem, to some defect in the plan, the project has only partially succeeded; the new channel soon filled up, and the entrance to the inner harbour became nearly as much encumbered as before. The canal is now, however, kept open by dredging and otherwise to the depth of 10 or 12 palmi, so that vessels of this draught of water may enter the inner port. The outer harbour, or bay, is deep and capacious, and has good anchoring ground. It is partially protected by an island, on which a fort is built; but it is exposed to the easterly gales, which throw in a heavy sea. A vast plan for the reconstruction of the old harbour was approved of by the Italian government in 1865.

BRIOUDE, a town of France, *dép.* Haute Loire,

cap. arrond., in a vast plain near the Allier, 80 m. N.W. Puy, on the railway from Clermont to Puy. Pop. 4,950 in 1861. The town is old, ill-built, and dirty. Its most remarkable edifices are the college, situated on a hill, and commanding a fine view, and the church of St. Julian, a venerable Gothic fabric, founded in the 9th century. Besides the college, it is the seat of a court of primary jurisdiction, and has a small public library, and a society of agriculture. Brioude was the birthplace of the Marquis de Lafayette, who acted so conspicuous a part in the American and French revolutions. At Old Brioude, about 3 m. SSE. of Brioude, is a bridge over the Allier, built in 1845, consisting of a single arch 182 ft. in span.

BRISACH (NEW), a fortified town of France, dép. Haut. Rhin. cap. cant., near the left bank of the Rhine, opposite to old Brisach, 9 m. SE. Colmar. Pop. 8,456 in 1861. The town was built in 1690 by Louis XIV., and fortified by Vauban. It is a regular octagon, and is regarded as one of the finest works constructed by that celebrated engineer. The streets all terminate in a *place* in the centre, and the houses are all of the same height. It is of no importance except as a fortification, being without trade or commerce.

BRISTOL, a city, co., parl. bor., and sea-port of England, at the confluence of the Avon and Frome, 8 m. SE. of the embouchure of the former, in the Bristol Channel, 108 m. W. London by road, and 118½ m. by Great Western railway. Pop. 95,758 in 1821; 140,158 in 1841; 137,328 in 1851; and 154,093 in 1861. The city extends over 7 hills and their intermediate valleys, amidst a picturesque and fertile district. In the older portion, along the river side, forming the nucleus of the modern city, the houses were originally of wood and plaster, with upper stories projecting over narrow streets; but these are now greatly diminished. In the more modern and elevated portions of the town, the streets and squares are spacious, and the houses are mostly well built and substantial. Those of Kingsdown, St. Michael's, and Clifton hills on the N. and W., rise, with their terraces and gardens each above the other, like an amphitheatre. Redcliffe, on the S. has narrow streets and densely crowded houses, resembling those of the older part of the city; but the process of widening them has been undertaken by the Improvement Committee under a local act of parliament. Bedminster is mostly occupied by small modern tenements for the working classes, and tan-yards. The whole city is well paved and sewered, and is lighted with coal gas, supplied by two public companies. Water is conducted by pipes to several public conduits and public pumps, and also by waterworks, established under an incorporated company, which fetches its supplies from springs rising in the Dundry and Mendip Hills. The cathedral in College Green, of the age of Stephen, and anciently part of St. Augustine's abbey, is a venerable edifice. It was originally in the form of a cross, and displays the different styles of English church architecture; length 175 feet, breadth of transept 128, and of nave and aisles 78 do., height of tower, 140 do. The nave was destroyed during the civil war in the reign of Charles I. The Chapter House vestibule is remarkable for its simplicity and the beauty of its composition. Among the other churches, belonging to the establishment, the principal are St. Mary's Redcliffe, crowning the summit of that hill; St. Stephen's, with its richly decorated tower, the beautiful pinnacles of which, being in a dilapidated state, were removed some years since; All-Saints, which has a statue of Colston, by Rysbrack; the Mayor's Chapel, formerly called Gaunt's

Church, and St. Michael's. The dissenters of various denominations form a very numerous and important part of the community, and have a proportional number of places of worship. There are about a dozen endowed charity schools. The free grammar-school, founded in 1582, has several exhibitions, and two fellowships, each of 30*l.* a year, in St. John's, Oxford. The endowments of Queen Elizabeth's Hospital, founded by John Carr in 1586, produce about 5,000*l.* a year. They are employed to educate, clothe, maintain, and afterwards apprentice about 200 boys, who are lodged in a noble building lately erected in the Elizabethan style on the NW. side of Brandon Hill. Alderman Whitson's Red Maids' school, founded in 1621, has an income of about 4,000*l.* a year; it maintains, clothes, and educates 120 young girls, daughters of freemen, from eight to eighteen years of age, who are then placed in suitable situations; and, if they conduct themselves with propriety, they have a small portion when they marry. This school has also been rebuilt in the Elizabethan style, and, with the preceding schools, is under the management of the Charity Trustees. There are also, the Redcliffe free grammar-school, founded in the 13th of Eliz., and Colston's, in 1708, for the maintenance, clothing, and education of 100 boys. Besides these, there are many other schools, supported either wholly or partially by benefactions and public subscriptions, in which upwards of 3,000 children are educated, and upwards of 10,000 receive instruction in the Sunday schools of the various sects. There are 21 almshouses, which receive in all 110 old men and 236 old women. The other charitable institutions comprise the Infirmary, established in 1735, capable of accommodating 200 patients; it has an annual average of 1,600 in and 5,000 out patients, who are supported partly by its own funded property, and partly by subscriptions and donations: the General Hospital, a smaller establishment than the former, and partly on a self-supporting principle: the Dispensary, which gives medical relief to the poor at their own dwellings: asylums for the blind, the deaf and dumb, and for orphan girls: a female penitentiary, and between 40 and 50 other charitable societies, which distribute in various ways very considerable sums. The poor are maintained under a local Act. The gross sum assessed to poor rate was 535,873*l.* in 1861.

The principal public buildings are,—the Guildhall, a modern structure in the florid Gothic style, on the site of the old building: the Council House, built in 1827, at a cost of about 14,000*l.*: the Gaol, a large well-arranged structure, built in 1820: the Bridewell, rebuilt after the riots in 1831: the Exchange, an extensive building of the Corinthian order, was erected by the corporation in 1760, but not being adopted by the merchants as a place of meeting, the interior is occupied as a corn market, and its back forms part of the spacious quadrangle in which the principal market is held. The Commercial Rooms, built in 1811, and used as an exchange, have a handsome dome, an Ionic portico, a large hall, reading room, and various apartments for the despatch of business. The branch of the bank of England, a modern building, in the Grecian style, adjoins the Guildhall. The Bristol Literary and Philosophical Institution, a handsome edifice, opened in 1823, has a reading-room, library, theatre, and museum: in the latter are good collections both in natural history and the fine arts, among them Bailly's statue of 'Eve at the Fountain.' Courses of lectures are given, philosophical papers read, and it has occasional exhibitions of paintings. The Mechanics' Institute, built in 1832, has a

lecture and a reading-room. The Bristol Library, established in 1772, has a collection of about 50,000 vols. in general literature. There are also law and medical libraries; a medical school, established in 1834, in which complete courses of lectures are given, the certificates of its professors being recognised at Apothecaries' Hall; an endowed 'Academy for the advancement of the Fine Arts;' and an academy for the education of young men for the Baptist ministry, to which an extensive library and museum are attached. There is a handsome edifice of the Corinthian order in Princes Street, in the great room of which concerts, balls, and other entertainments are sometimes given. The Victoria assembly rooms have a saloon 117 ft. in length, by 55 do. in width, and 48 do. in height. The theatre was said by Garrick to be one of the best of its size in Europe. At Clifton are baths and dump-rooms; and connected with the hot wells is a handsome edifice of the Tuscan order.

The Bristol channel is celebrated for its high tides. They rise at Kinroad, at the mouth of the Avon, from 48 to 49 ft. at springs, and 28 ft. at neaps, while their rise at the entrance to the floating harbour at Rownham, varies from 30 to 38 ft. In consequence of this extraordinary rise, the largest ships come up to the city. The tide sets with great rapidity in the river, especially between the precipitous rocks of Clifton and Leigh, which seem to be rent asunder to admit its passage; and to obviate the risk of damage to shipping from this rapid flow of the tide, and from grounding at low water, a spacious floating harbour, equivalent to a wet dock, has been constructed. This important work, begun in 1804 and completed in 1809, was effected by changing the bed of the river. But the original entrance to the harbour being too small to admit steam ships of the largest size, a new entrance of the requisite dimensions was made to it in 1849. The harbour extends about 8 miles from the entrance lock at Rownham, to the dam at Temple Meads, occupying the old bed of the Avon, and the bed of that branch of the Frome that lies between St. Augustine's and St. Stephen's quays, and cost in all a very large sum. The quay is upwards of a mile in length, and so constructed as to admit of any further extension that any increased trade may require. There are two basins for the temporary accommodation of vessels entering or leaving; one at Rownham for large ships, the other below the iron bridge at Bedminster, for vessels under 500 tons. There are also several capacious graving-docks, and ship-yards suitable for vessels of any dimensions. The Great Western and Great Britain steam-ships, with the Severn, the Avon, and others of inferior size, were built in the port.

Five bridges connect the opposite sides of the floating harbour and rivers, viz. Bristol Bridge, of 8 stone arches, built in 1768, spanning the Avon, and connecting the central part of the city with Redcliffe; 2 iron bridges, each with a single span of 100 ft., one on the Bath and Wells, the other on the Exeter line of road; a swivel iron bridge (to admit the passage of ships), connecting St. Augustine's and Clifton with the rest of the city, and a fine suspension bridge, completed in 1864, and connecting Clifton with the co. of Somerset. The latter formerly spanned the Thames, and was known as Hungerford Bridge. Having been purchased from the South Eastern Railway company, the bridge was brought down here, and in its new situation forms one of the most picturesque and striking works of its kind in the kingdom, the roadway being 850 ft. in length and 220 ft. above high-water mark, with precipitous rocks at

both ends, on each of which a tower is erected. The Avon, above Bristol Bridge, is navigable for barges to Bath, whence the water communication is continued to London by the Avon and Kennet canal and the Thames. Three railways, viz. the Bristol and Gloucester, Great Western, and the Bristol and Exeter, have termini in the city, which, consequently, has a rapid means of communication with the metropolis and all parts of the country. The Exchange market, and that of St. James, are open daily for general provisions; the chief supply being on Wednesdays and Saturdays; corn and leather markets are held Tuesdays and Thursdays. The cattle-market is held on Thursdays, in a walled area of 4 acres, outside the city, at Temple Meads, at the junction of the Great Western and Exeter railways. At the great market on the Thursday preceding Christmas, the show is usually very fine. Two annual fairs, commencing 1st March and 1st Sept., that were formerly resorted to by clothiers, hosiers, and cutlers, from all parts of England, having fallen into desuetude, were abolished in 1837; but fairs for cattle, horses, and leather, are still held on the above days.

Bristol was, for a lengthened period, second only to London as a commercial emporium; but, though its comparative importance has, in this respect, greatly declined, it continues to be the seat of some important manufactures and of an extensive and increasing trade. The principal manufactures are those of refined sugar; brass and copper wares, for the production of which Bristol was formerly famous, and in which the town still maintains her reputation; soap, glass bottles, crown and flint glass, chain cables, anchors, steam-engines and other machinery, tobacco, earthenware, floor cloth, brass wire, pins, patent shot, sheet lead, zinc, saltpetre, tin pipes, hats, drugs, colours, dyes, starch, bricks, British spirits, malt liquors; with extensive soda works. There is also a cotton mill, which employs about 1,700 hands. Many of the iron foundries are on a large scale, and are increasing both in their number and the extent of their exports. The establishments for glass, sugar, brass, floor cloth, and earthenware, are also on an extensive scale. There were 8,782,000 letters delivered in 1860; 9,933,000 in 1861; and, 10,185,000 in 1862. The postage collected amounted to 32,565*l.* in 1860; 33,865*l.* in 1861; and, 35,720*l.* in 1862. There is a savings' bank, established in 1813, and 7 other banking establishments, including the branch of the bank of England.

Bristol early possessed, and continues to enjoy, a large share of the trade with the West Indies; and among her foreign imports the most important are those of sugar, molasses, rum, tea, and cocon; the next most important are those of tobacco, timber, wine, brandy, tallow, fruits, wool, hemp, dye stuffs, oils, saltpetre, and hides. The exports consist principally of the produce of the various manufactures of the city, with salt, iron, coals, and culm, in part the produce of the neighbourhood; and cotton, linen, and woollen goods. In the year 1863, the principal exports consisted of railroad iron, valued at 105,286*l.*; cotton manufactures, 44,441*l.*; wrought copper, 17,227*l.*; and unwrought copper, 18,499*l.* The total value of the exports in 1863 was 341,674*l.* The customs' duties during the same year amounted to 1,150,599*l.*, against 1,317,177*l.* in 1862, and 1,386,258*l.* in 1861. The shipping which entered the port in the year 1863, consisted of 954 vessels, of 242,879 tons. Of these, 528 vessels, of 139,066 tons, were British, and 426 vessels, of 103,813 tons, foreign. The largest tonnage, 56,980, in 107 vessels, came from the North American colonies; the next largest, 26,414

tons, in 52 vessels, came from the United States. The total number of vessels which entered, in 1863, was 6,495, of 494,511 tons burden; among them 1,780 steamers, of 807,254 tons. The total number of vessels which cleared was 4,252, of 404,942 tons; among them 1,772 steamers, of 291,403 tons burden. There belonged to the port of Bristol, on the 31st December, 1863, 380 sailing vessels and 41 steamers. Of the sailing vessels, 183, of 5,363 tons, were under 50 tons burden, and 197, of 61,319 tons, above 50. Of the steamers, 18 were under, and 23 above 50 tons burden. A communication by steam for the conveyance of goods and passengers to Ireland was established as early as 1826, and has led to a great increase of the trade with that part of the empire. Bristol also had the honour of being the first port in the empire to establish a regular communication by steam with the U. States. The first voyage by the Great Western steamship was performed in 1838.

The parl. and municip. limits of Bristol coincide. The borough is divided into 12 wards, and is governed by a mayor, 16 ald., and 48 councillors. Previously to the Municipal Reform Act, the government was vested in a mayor, 12 ald., and 30 common councillors, the recorder being senior alderman: they were a self-elected body, and filled up their vacancies from the freemen, of whom there were 3,109 registered. The governing charter was granted in the 8th of Anne; the earliest in the 9th of Hen. II. A court of sessions, or gaol delivery (except for capital cases, now tried at Gloucester), is held quarterly by the recorder. The tolzey, or sheriff's courts, for all kinds of actions in cases under 40s. A county court is held at Bristol for part of the county of Gloucester. Bristol has, also, a district court of bankruptcy, and a court of assize for *nisi prius* cases, held the week after the Somerset assizes, by the senior judge on the western circuit.

The county jurisdiction by water, extends over the Avon, from 4 m. above the city: and sea-ward, to the steep and flat Holmes, and to the high water-mark, on the English side of the Severn, from Aust's Passage to Clevedon. The corporation are conservators of the port and harbour; and have the power of licensing pilots, on whom is conferred the exclusive privilege of piloting all vessels passing up or down to the E. of Lundy Island, except Irish and coasting traders: the ports of Bristol, Newport, Cardiff, Swansea, Ilfracombe, and Bridgewater are comprised within this jurisdiction. A board of commissioners, elected by the rate-payers, has the exclusive power of paving, lighting, and cleansing the town; they levy an annual assessment on the inhab. for these purposes varying from 11,000*l.* to 12,000*l.* The corporation revenues, derived from towns and market dues and rents of houses and lands in the city and neighbourhood, as well as from rates, amounted to 81,515*l.* in 1861, of which sum 23,000*l.* was from rates. The Dock Company was incorporated by an act of 43 Geo. III.; but in 1848, the docks were transferred from them to the incorporation, and the rates have been since greatly reduced. The management of the poor, within the old limits of the city, was vested in a corporate body by an act 7 & 8 W. III. c. 32, and subsequent acts have been passed regulating their number and powers. The guardians consist of the mayor and 12 members elected annually by the town council out of their own body, the senior churchwardens of the different parishes, the senior overseer of the castle precincts, and 48 other inhabitants. The gross sum assessed to poor rate was 535,873*l.* in 1861, and the net rateable value, 459,659*l.* Amount assessed to property tax, 805,445*l.*

Bristol has sent 2 mem. to the H. of C. since 1283: previously to the Reform Act, the right of election was in the freeholders and freemen only. Registered electors, 13,802 in 1861, including 1,854 freemen, and 2,041 scot and lot voters. Bristol was made the seat of a bishopric in 1541. It is now, in conformity to the act 6 & 7 W. IV. c. 77, united with Gloucester, in a see comprising the city of Bristol, the deaneries of Cricklade and Malmesbury, in Wilts, and the previous diocese of Gloucester.

The Bristol hot-well, under the Clifton rocks, is much resorted to by invalids, its waters being considered efficacious in consumptive cases. The temp. of this saline spring, when fresh from the pump, is 74° Fahr., and it then evolves free carbonic acid. It issues from the cliff, between the high and low water-mark. The hot-well house is finely situated beside the Avon; a carriage road winds from it, behind the rocks, to Clifton Down; a shorter footpath at the back also leads to that suburb, which is the fashionable part of Bristol: the scenery, by either line, is singularly interesting. The acclivities are occupied by handsome edifices in squares, terraces, and crescents, forming fine promenades; the most magnificent of these ranges are York Crescent, Victoria Square, and Caledonia Place. Another spring higher up the cliff, but probably from the same source, has baths and a pump-room attached to it. The geological features of the place may be thus briefly described:—If the entire area be divided N. and S. into three unequal portions, that on the E. will fall within the limits of a coal formation, which extends N. and S. of the city, but chiefly to the N., about 30 m.: its beds are thin, as compared with those of other coal-fields. The central or largest portion is chiefly occupied by the new red sand, in which saurian remains occur; the western part is chiefly mountain lime. Some of the summits in the N. and W. parts of the city are 250 ft. above the bed of the Avon. In the rocks of Clifton, and the opposite ones of St. Vincent, quartz crystals of great purity occur, known as Bristol diamonds. There are remains of three Roman encampments at Clifton, Rownham, and Abbots-Leigh.

According to Camden (Gibson's ed. of the Brit. i. 74), Bristol first rose into notice towards the close of the Saxon dynasty. It is noticed by William of Malmesbury as a place of great trade, frequented by ships from all parts of Europe. It had then, as now, an extensive intercourse with Ireland; but *slaves* were a principal article of export to that country. (Henry's Great Britain, vi. 268.) Its castle was built, or, at all events, enlarged and strengthened, by the Earl of Gloucester, brother to the empress Matilda. During the wars of the Roses the town was comparatively undisturbed and flourishing; but in the civil war of the seventeenth century it suffered severely. At the commencement of hostilities it was garrisoned by the parliamentary army; subsequently it was stormed by the king's forces, and surrendered to Prince Rupert. The following year (during which it suffered under the united evils of pestilence and war) it was again stormed, and retaken by Cromwell, who subsequently demolished its castle. In 1247 a great improvement in its port was completed, by cutting a new channel for the river, and forming a double line of quay between Bristol and Redcliffe: a bridge, on the site of the present, was built at the same period. Thence, to the sixteenth century, its factories supplied a large portion of the kingdom with woollen goods, soap, and glass. In the reign of Edward III. it was made a staple of wool; and it then traded extensively with Ireland, France, and

Russia. In the *Itinerary* of Botoner are details of its trade and shipping in the fifteenth century, which prove its extended commerce and great enterprise at that period. Near the close of the fifteenth century, Henry VII. granted charters to John Cabot and his two sons, which resulted shortly after in the discovery of Newfoundland, and a large part of the American continent. In October, 1831, a most disgraceful riot occurred here; which, owing to a want of decision on the part of the civil and military authorities, was allowed to attain to a most alarming height. The mansion-house, the episcopal palace, and several private houses, were burnt down; and a large amount of property destroyed.

Among the distinguished individuals that Bristol has produced are—William of Worcester, the topographer; Wm. Cannyng, the most eminent merchant and ship-owner of his day; Sebastian Cabot, the discoverer of Newfoundland, born at Bristol, of Venetian parents; Edw. Colston, a merchant famous for his benevolence and the extent of his charities; Sir Wm. Draper, distinguished by his controversy with Junius; Chatterton, the poet, whose uncle was sexton of Redcliffe church, where the Rowley MSS. were alleged to have been discovered; Southey, the poet and *litterateur*; Sir Thomas Lawrence, the eminent painter; and Bayley, the sculptor.

BRITISH EMPIRE (THE). one of the most powerful and important states of Europe, consists of the islands of Great Britain and Ireland, with the smaller islands contiguous to them, and their dependencies in various parts of the world. Great Britain, the largest, and by far the richest and most populous of the British Islands, includes what were formerly the independent kingdoms of England and Scotland; the former occupying its S., most extensive and fertile, and the latter its N. and most barren portion. These two kingdoms, having been united, form with that of Ireland, the *United Kingdom of Great Britain and Ireland*, which constitutes not only the nucleus and centre, but the main body and seat of the wealth and power of the empire.

The islands of Great Britain and Ireland are situated in the N. Atlantic Ocean, off the W. shores of continental Europe, opposite to the N. parts of France, the Netherlands, the peninsula of Jutland, and the S. parts of Sweden and Norway, between 50° and 59° N. lat., and 2° E. and 11° W. long. Great Britain, which, from its superior magnitude and importance, gives name to the United Kingdom and the empire, is not only the largest of the European islands, but one of the largest in the world. It lies to the E. of Ireland, and approaches at its SE. extremity at Dover to within 21 m. of the opposite coast of France. But as the coast of Great Britain stretches NNW. from Dover to Duncansby Head, the extreme NE. point of the island, while the opposite shore of the Continent recedes in a NE. direction, the intervening space, called the North Sea or German Ocean, is of very considerable dimensions. To the S. of the British Islands we have the English Channel, and W. and N. the broad expanse of the Atlantic.

Great Britain is very irregularly shaped, being deeply indented by numerous gulfs and arms of the sea, but on the whole it approaches to the figure of a wedge, being narrowest at its N. and broadest at its S. extremity. The longest line not intersected by any considerable arm of the sea that can be drawn in Great Britain, extends from Rye in Sussex (lat. 50° 57' 1" N., long. 0° 44' E.), to Cape Wrath in Sutherland (lat. 58° 38' N., long. 40° 58' W.), a distance of about 580 m.; and

its greatest breadth from the Land's End (lat. 50° 4' 8" N., long. 5° 41' 31" W.), to a point near Lowestoft, on the coast of Norfolk (lat. 52° 28' 30" N., long. 1° 46' E.), is about 367 m. But, owing to the indentations already referred to, its breadth in some places is much less, being between the friths of Forth and Clyde under 40, and between the Moray Frith and the Minch under 30 m. from shore to shore. Its area is estimated at 89,035 sq. m., of which England and Wales contain 58,320, and Scotland (inclusive of its dependent islands) 30,715 sq. m. The area of the Scottish islands is roughly estimated at about 4,000 sq. m.

Ireland lies to the W. of Great Britain, between the parallels of 51° 25' and 55° 23' N. lat., and of 6° and 11° W. long. Its figure is rhomboidal; and though it has many noble bays and harbours, it is less indented by gulfs and arms of the sea, and is decidedly more compact than Great Britain. It is everywhere surrounded by the Atlantic, except on its E. shores, which are separated from Great Britain by St. George's Channel, the Irish Sea, and the North Channel. From St. David's Head in Wales to Carnsore Point, the distance across is about 47 m.; from Port Patrick in the Rhynns of Galloway to Donaghadee, the distance is 22 m.; but from the Mull of Cantire to Tor Point in Ireland, the distance is only 13½ m. The longest line that can be drawn in Ireland, in about the same meridian, extends from the Old Head of Kinsale in Cork to the Bloody Farland Point in Donegal, a distance of about 237 m.: the longest line that can be drawn crosswise in Ireland, in nearly the same parallel of lat., extends from Emlagh Rashi, on the coast of Mayo, to Quintin Point, at the mouth of Lough Strangford, on the coast of Down, being about 182 m.: but in other places the breadth is a good deal less. So conveniently is Ireland situated in respect of water communication, that there is no part more than 50 or 55 m. distant from the sea, or from one of its arms. The area of Ireland is estimated at 32,512 sq. m.

Physical Aspect.—Perhaps no country ever existed more favourably situated, or placed under more advantageous physical circumstances, than the United Kingdom. It is sufficiently extensive to be the centre of a mighty empire; and to support, independent of any extrinsic resources, a very large population, and, consequently, possesses that native and inherent power that is necessary to secure the first condition of political importance—national independence. Its insular situation is also of immense advantage; it gives a well-defended frontier, on which there can be no encroachment, and about which there can be no dispute; and while it remains comparatively secure from hostile attacks, affords unequalled facilities for commerce; every part of the frontier being, as it were, a terminus to the 'great highway of nations.' The surface of the country is agreeably diversified with hill and dale, mountains and plains; and while the soil is not so very fertile as to yield crops with little labour, and so to encourage sloth on the part of the cultivator, it is in general sufficiently productive, and yields abundant returns to the laborious and skilful husbandman. It has been well observed of Great Britain, and the same is equally true of Ireland, that 'it is not fertile enough to make men indolent, nor barren to such a degree as to deny grateful, if not ample, returns to the industrious cultivator. In a word, it enjoys the fortunate medium between fertility and barrenness, or between easy and difficult culture; inclining rather to the side of difficulty, and affording opportunity sufficient for industry and improvement.'

All the most valuable species of the *Cerealia*, as wheat, oats, and barley, succeed quite as well in the British Islands as in any other country. Potatoes, too, and a vast variety of useful vegetables and fruits, are raised in the greatest abundance. Owing to the peculiar aptitude of the soil and climate, no country can compare with the United Kingdom in the luxuriance of its verdure and the richness of its pastures. In consequence principally of this circumstance, but partly, also, of the care bestowed on the selection of the most improved stock, the horses, cattle, sheep, and other useful animals, are all equal, if not superior, to the finest breeds to be found in any other part of the world.

The British Islands are also singularly fortunate in respect of climate. Though exposed to sudden changes, it is exempted from all violent extremes of heat and cold. The great defects in the climate are the prevalence of cold blighting E. winds in April and May; and not unfrequently, of rainy weather in August and September. It is but rarely that crops suffer from excess of drought; but they occasionally suffer from backward summers, and autumnal rains. On the whole, however, the climate of the British Islands is, notwithstanding its defects, one of the best, if not the very best, in Europe.

Among the other physical circumstances that have promoted, in no ordinary degree, the power and prosperity of the empire, may be specified the number and excellence of the harbours, and the number of rivers, their depth, and the facilities they afford to internal communication. In this respect, the physical aspect of Great Britain is strikingly different from that of other countries on the face of the globe. Great Britain and Ireland being islands, with no part very remote from the sea, it might be supposed that their rivers would be of comparatively small magnitude, and of but little use in navigation. But the fact is distinctly and completely the reverse. The Thames, Trent, and Severn, in England, and the Shannon, in Ireland, are all navigable to a very great distance. The first, notwithstanding its limited length and volume of water, ranks, as a navigable channel, among the first rivers of Europe; its mouth is unencumbered by any bar, and it is navigated from the sea to London Bridge, a distance of 45 m., by the very largest ships, and to a much greater distance by barges. The Severn, Trent, and Shannon have been rendered navigable for barges and steam-boats for the greater part of their course; the latter, which flows through the interior of Ireland, almost to its very source. The means afforded by the rivers for facilitating internal communication, have been vastly extended by the construction of canals; and, with the single exception of Holland, the United Kingdom has a greater extent of artificial navigation than any other country.

The mineral riches of Great Britain are not merely equal to those of any other country, but superior. Iron, the most useful of all the metals, is found in the greatest abundance, and of an exceedingly good quality, in most parts of the empire. The tin mines are the most productive of any in Europe; and there are also very productive mines of copper, lead, manganese, and other minerals. Salt springs and beds of fossil salt are alone sufficient for the supply of the whole world. But coal is by far the most important and valuable of all the mineral treasures. It is hardly, indeed, possible to overrate the advantages Great Britain derives from her vast, and, to all practical purposes, inexhaustible beds of coal. In the northern climes, fuel ranks among the principal necessities

of life; and it is to coal mines that Great Britain owes abundant and cheap supplies of so indispensable an article. Had they not existed, wood must have been used as fuel; and it is quite impossible that any attention to the growth of timber could have furnished a supply equal to the wants of the present population of Great Britain, even though a large proportion of the cultivated land had been appropriated to the raising of trees. But, however great and signal, this is not the only advantage derived from coal mines: they are the principal source and foundation of the manufacturing and commercial prosperity of Great Britain. Since the invention of the steam-engine, coal has become of the highest importance as a moving power: and no nation, however favourably situated in other respects, not plentifully supplied with this mineral, need hope to rival those that are, in most branches of manufacturing industry. To what is the astonishing increase of Glasgow, Manchester, Birmingham, Leeds, and Sheffield, and the comparatively stationary or declining state of Canterbury, Winchester, Salisbury, and other towns in the south of England, to be ascribed? It cannot be pretended that the inhabitants of the former are naturally more ingenious, enterprising, or industrious than those of the latter. The abundance and cheapness of coal in the north, and its scarcity, and consequent high price, in the south, is the real cause of this striking discrepancy. The citizens of Manchester, Glasgow, and other beehives of industry, are able, at a comparatively small expense, to put the most powerful and complicated machinery in motion, and to produce results quite beyond the reach of those who have not the same command over coal, or, as it has been happily defined, hoarded labour.

The subjoined table gives, after official returns, the quantities of coal and other minerals and metals produced in the United Kingdom in the year 1862, together with the estimated value at the place of production:—

Minerals and Metals	Quantities	Value
	Tons	£
Coal	81,638,338	30,409,584
Copper, Fine	14,843	1,493,241
Iron, Pig	3,943,469	9,858,672
Lead, Metallic	69,013	1,436,345
Tin, White	7,578	879,048
Zinc	2,051	48,198
	Oz.	
Silver from Lead	686,123	189,041
Gold	5,299	20,390
Other Metals	—	250,000
Total of Metals	—	14,174,985
Total of Coal & Metals	—	44,584,519

Of the 81,638,338 tons of coal produced in 1862 in the United Kingdom, 62,025,383 tons were raised in England, 8,409,455 in Wales, 11,076,000 in Scotland, and 127,500 in Ireland. (Miscellaneous Statistics of the United Kingdom, Part v.)

Races of People.—At the earliest period to which history ascends, the British islands were occupied by Celts or Gael, who, it is probable, had passed over into Britain from the contiguous coasts of France, and from Britain into Ireland. To the Celtic population of Britain succeeded the Gothic. At a period long preceding the Christian era, the Goths or Scythians, advancing from the east, had occupied a large portion of the N. and NW. parts of Europe. The Low Countries and the N. pro-

vinces of France were in the age of Caesar peopled by Goths, who had acquired the distinctive appellation of *Belgæ*; and it appears from Caesar, that long previously to his invasion of Britain, colonies of Belgians had passed over into it, and then occupied its maritime and most fertile portions. (De Bello Gallico, lib. v. § 12.) The Romans, though they subdued Great Britain, did not settle in great numbers in it; and the Belgæ, by whom it had been colonised at the epoch of their invasion, may be regarded as the principal progenitors of the English nation; for, though the various Gothic tribes who passed over into Britain after the departure of the Romans were sufficiently powerful to subdue it, and one of them (the *Angles*) succeeded in giving its name to the greater portion of Britain, they were far too few in number to have occupied it fully, or given it a new language, had their own differed materially from that previously in use. (Pinkerton's Geog., art. England, and his Dissert. on the Goths, *passim*.) But the ancient and the more recent Saxon and Belgian colonists being essentially the same people, readily amalgamated. The invaders having expelled the original or Celtic inhabitants from the lower and more fruitful parts of the country, the latter were compelled to resort to the fastnesses of Wales, the Highlands of Scotland, and the remote parts of Devon and Cornwall. The facilities which these countries afforded for resisting and eluding an invading force, prevented them being overrun by the Goths. They were never subdued by the Roman legions; and at this moment we find them a distinct race, speaking the language of their remote ancestors.

The temporary conquest of England by the Danes, and its subsequent subjugation by the Normans, however important in other respects, made no sensible change in the stock of the inhabitants. The Normans, though long settled in France, where they had acquired the use of the French language, originally emigrated from Norway; and belonged, as well as the Danes, to the Gothic family.

The Romans never invaded Ireland; and the Goths do not appear to have passed over into it, at least in any considerable numbers. Hence its population, in so far as it is not alloyed by emigrants from England, since the invasion under Henry II. and their descendants, may be regarded as of Celtic origin. In fact, the Irish language, a dialect of the Gaelic, is at this moment spoken to the almost total exclusion of English, in various secluded districts of Ireland; and it is generally considered that nearly two-thirds of the people of that island are descended from the ancient occupants of the country.

Population.—The progress of population in Great Britain and Ireland was long very slow. Latterly, however, it has increased with extraordinary rapidity, chiefly in consequence of the wonderful rise of manufactures and commerce.

The population of England and Scotland was, for the first time, determined by actual enumeration in 1801; since which a census has been taken every ten years. In Ireland, an incomplete census was taken in 1813; but it was not till 1821 that the population of that part of the empire was exactly ascertained. The registration of births and deaths, an almost indispensable basis and accompaniment of the census returns, was not introduced into Ireland till the year 1864, while in England it commenced in 1837, and in Scotland in 1855.

The striking progress of the population of the United Kingdom in the course of a century and a half will be seen in the following condensed statement:—

United Kingdom	
Years	Population
1700	7,650,000
1750	9,670,000
1801	15,800,000
1851	27,745,349
1861	29,321,288

In England and Wales, during this period, the progress was as follows:—

England and Wales	
Years	Population
1696	5,500,000
1710	5,066,337
1780	5,687,993
1750	6,039,684
1780	6,479,730
1780	7,814,827
1801	9,187,176
1851	17,927,600
1861	20,228,497

In Scotland, as will be seen from the subjoined table, the ratio of increase was far less striking:—

Scotland	
Years	Population
1707	1,050,000
1755	1,265,380
1801	1,699,058
1851	2,888,742
1861	3,096,808

The increase of population in Ireland, and the decrease in the last decennial period, shows some notable features:—

Ireland	
Years	Population
1679	1,100,000
1712	2,099,094
1754	2,372,634
1777	2,690,556
1785	2,845,933
1805	5,395,456
1851	6,661,830
1861	5,850,309

Subjoined is a summary of the census returns of 1861, together with the proportion of population in each of the divisions of the United Kingdom:—

	Total Population	Proportion of population
United Kingdom . . .	29,321,288	100-0
England and Wales . . .	20,228,497	69-1
Scotland	3,096,808	10-5
Ireland	5,850,309	19-9
Islands in the British Seas	145,674	-5

It will be seen from the preceding tabular statements that the pop. of the United Kingdom increased by about thirteen and a half millions in the course of the sixty years, from 1801 to 1861. This increase, however, was not regular, for while it amounted to full fifty per cent. during the first half of this period, it was not more than twenty in the second half. This serious retardation in the rate of progress has been ascribed, partly, to a vastly augmented emigration, made possible by the perfection of all the means of international com-

munication, and partly, and to a still greater extent, to the fact, demonstrated by experience that as soon as the density of population rises to a certain point, the increase of population becomes gradually lessened.

According to the census of 1861, the male pop. of the United Kingdom, including the absent soldiers and sailors, was 14,880,634; the female pop. was 14,954,154: the females, therefore, exceeded the males by 573,530, and this excess of more than half a million is largely increased by excluding the men serving out of the country. To every 100 males in the British islands there were 106 females. No doubt the disproportion of the sexes existed long before it was made apparent by the first enumeration in 1801, and of late years it has been increasing, as the following figures will show:—

Census Year	Proportion of Females to every 100 Males in the United Kingdom
1841	104.9
1851	105.1
1861	106.2

In Great Britain, of children born alive, 105 boys are born to 100 girls, and the proportion in France is nearly the same. The males continue to preponderate until the seventeenth year, when the number of the two sexes are nearly equal; at all subsequent ages the females are in excess of the males, the change in the proportions being mainly due to a difference in degree of the dangers to which they are exposed, to a lower rate of mortality amongst females from diseases as well as from violent causes, and to emigration. The disparity of the sexes has always been regarded as one of the least satisfactory conditions of the population of the United Kingdom, but in a country where more than three millions of adult women are withdrawn more or less from domestic duties to follow employments in the different manufactures and trades, the evil is not without some mitigation. At the same time, it must not be forgotten that in Australia and other British colonies the proportion of the sexes is reversed to such an extent as to render a well-organised system of female emigration from the mother country highly desirable. (See AUSTRALASIA.)

Emigration.—The number of persons who annually quit the United Kingdom to found a home in other countries is very considerable. Subjoined is a statement of the emigration for the three years 1860–62, with destination of the emigrants:—

Destination of Emigrants	Years	Number—United Kingdom
United States . . .	1860	87,500
	1861	49,764
	1862	58,708
British North America . . .	1860	9,786
	1861	12,707
	1862	15,522
Australian Colonies . . .	1860	24,302
	1861	23,738
	1862	41,843
Other Places . . .	1860	6,881
	1861	5,561
	1862	5,143
Total . . .	1860	128,469
	1861	91,770
	1862	121,214

It will be seen that the United States attract considerably more than one-half of the number of voluntary exiles who annually quit the shores of the United Kingdom. The stream of emigration is stronger from certain parts of the country than from others. The general direction is exhibited in the following table, which shows the principal

ports of embarkation of emigrants in the year 1862:—

Ports		1862
In England . . .	London . . .	20,375
	Plymouth . . .	5,737
	Liverpool . . .	64,314
	Southampton . . .	2,816
	Other Ports . . .	250
Total . . .		93,492
In Scotland . . .	Glasgow and Greenock . . .	8,046
	Other Ports . . .	13
Total . . .		8,059
In Ireland . . .	Belfast . . .	31
	Cork . . .	14,183
	Galway . . .	153
	Londonderry . . .	5,072
	Other Ports . . .	224
Total . . .		19,663
Total from United Kingdom . . .		121,214

The total number of emigrants who left the United Kingdom in the sixteen years, 1849 to 1864, amounted to nearly four millions. The rise and fall of emigration during these sixteen years is concisely shown in the subjoined table:—

Years	Number of Emigrants	Years	Number of Emigrants
1849	299,498	1857	212,875
1850	280,849	1858	113,972
1851	335,966	1859	120,432
1852	368,764	1860	128,469
1853	329,937	1861	91,770
1854	323,429	1862	121,214
1855	176,807	1863	223,758
1856	176,554	1864	

Of the 223,758 emigrants who left the United Kingdom in the year 1863, there were—English, 61,243; Scotch, 15,230; Irish, 116,891; foreigners, 7,839; not distinguished, 23,061.

In the twenty-three years ending 1863, there were 276,837 emigrants sent out to Australia by the Government Emigration Board; 38,420 of them were nominated in virtue of contributions in the colony from private sources, amounting to 164,290*l*. The total passage money was 3,669,988*l*.

Wealth of the Population.—The assumed value of real property in the United Kingdom is shown in a Parliamentary return issued in the session of 1864. The information, extending over the five years, 1857 to 1862, is gathered from Schedule A of the income-tax returns. The gross annual value in 1857 of real property in England was 103,496,253*l*. It had increased in 1862 to 120,069,968*l*. As respects Scotland the figures were, in 1857, 12,582,749*l*; and in 1862, 15,128,538*l*; and as regards Ireland, in 1857, 11,915,286*l*; and in 1862, 13,400,546*l*.

The following return, published in pursuance to an order of the House of Commons of June 30, 1863, shows the population, the gross receipt of the revenue, after deducting repayments, allowances, discounts, drawbacks, and bounties of the nature of drawbacks, and excluding therefrom miscellaneous receipts, and the rate per head of the population of such revenue; also the amount of property and profits assessed for the income tax, the amount of income per head of the population, and the poundage of said taxation on such income.

for Great Britain and Ireland, in the year ending the 31st day of March, 1862:—

	Great Britain	Ireland
Population . . .	23,128,518	5,798,967
Gross Revenue . .	£61,360,749	£6,792,606
Amount of gross revenue per head of population	£2 13s.	£1 3s. 5d.
Amount of property and profits assessed to Income Tax	£301,380,730	£21,638,975
Amount of income per head of population	£13 0s. 7½d.	£3 14s. 7½d.
Amount of revenue for each £ of income	4s. 0½d.	6s. 3½d.

Another Parliamentary return states that in Great Britain the annual average amount of property and income tax contributed per head of population in the quinquennial period ending March 31, 1858, was 10s. 4½d., and in Ireland 2s. 10½d. The annual average in Great Britain in the quinquennial period ending March 31, 1863, was 7s. 11½d., and in Ireland 2s. 4½d. There is no country which can show similar results as regards national wealth and individual prosperity.

Agriculture.—Attempts have been made at various times, both by the government and private persons, to get agricultural statistics for the United Kingdom, but these attempts, from various causes, have always been unsuccessful. The general state of agriculture can, therefore, be only estimated. One of the best estimates, though many years old, is that given in the subjoined table, giving the extent of the cultivated (including meadows and arable pasture grounds) and uncultivated land in the different divisions of the U. Kingdom. The statistics have been derived as follows; viz. those for England and Wales, from a statement furnished by Mr. Couling, land surveyor and civil engineer to the Emigration Committee of 1827; those for Scotland, from the General Report of Scotland (III. Append. p. 5); and those for Ireland, from the statement furnished by Mr. Griffith to the Lords' Committee on Tithes:—

	Cultivated	Uncultivated	Total
	Acres	Acres	Acres
England . . .	25,692,000	6,615,680	32,307,680
Wales . . .	3,117,000	1,635,000	4,752,000
Scotland . . .	5,043,450	13,900,550	18,944,000
Ireland . . .	14,603,473	5,340,736	19,944,209
British Islands (Jersey, Guernsey, and Man)	383,690	735,469	1,119,159
Totals . . .	48,779,613	28,227,435	77,007,048

The figures for Ireland and Scotland, in the last column of the above table, are exclusive of lakes.

These returns, even at the period when they were framed, had no pretensions to accuracy, and could be considered merely as rough approximations. And considering the time that has since elapsed, and the rapid spread of agricultural improvement, there can be no doubt that the proportion of cultivated land has since been materially augmented. In Scotland, only, this extension has been supposed to amount to about a million of acres; while the immense number of acts passed of late years for the inclosure and division of wastes and commons in England and Wales, shows that there, also, the extent of the cultivated land must have been at least as widely extended.

At the close of the war in 1815, the produce of wheat in England and Wales did not amount to 3 quarters, or 24 bushels, an acre. But such and so great has been the progress of improvement in the interval, that its produce at present exceeds

3½ quarters, or 28 bushels, an acre. This, supposing there are 3,600,000 acres under wheat in England, makes an addition of 14,400,000 bushels to the produce, exclusive of the farther quantity of other grain furnished by the greater breadth of land under tillage. And it is material to observe that the progress of improvement has been even more rapid in other parts of the U. Kingdom than in England; the produce of *all* descriptions of crops, and the land in cultivation, having been everywhere increased in a degree that could not previously have been anticipated. According to Dr. Colquhoun, the consumption of corn in the U. Kingdom, in 1814, amounted, ex. seed, to 35,000,000 quarters. And the annual average consumption may at present be estimated at about 60,000,000 quarters, of which about 50,000,000 are of domestic growth.

It must be repeated that the above figures are given only as the roughest approximations, but decidedly rather under than over the mark. The only part of the United Kingdom where agricultural statistics worth relying on have been collected, is Ireland, and a few of these, presented in the subjoined tables, may serve as useful comparison with the more or less unreliable estimates of British agricultural produce.

The produce of *wheat* in Ireland was as follows in the year 1862:—

Provinces	Total Produce	Produce per Acre
	Qrs.	Barrels 20 stone
Leinster . . .	252,021	3·3
Munster . . .	248,881	3·0
Ulster . . .	147,041	3·5
Connaught . .	35,105	3·0
Ireland . . .	683,048	3·2

The produce of *oats* in 1862 was as follows:—

Provinces	Total Produce	Produce per Acre
	Qrs.	Barrels 14 stone
Leinster . . .	1,825,245	6·3
Munster . . .	1,400,627	5·9
Ulster . . .	3,016,862	6·7
Connaught . .	1,040,766	5·8
Ireland . . .	7,283,400	5·9

The produce of *barley* in 1862 was as follows:—

Provinces	Total Produce	Produce per Acre
	Qrs.	Barrels 16 stone
Leinster . . .	420,509	6·5
Munster . . .	168,729	5·7
Ulster . . .	41,295	6·0
Connaught . .	31,300	5·9
Ireland . . .	661,833	6·2

The produce of *potatoes* in the year 1862 was as follows:—

Provinces	Total Produce	Produce per Acre
	Barrels 20 stone	Barrels 20 stone
Leinster . . .	3,996,387	20·9
Munster . . .	4,395,713	17·3
Ulster . . .	5,662,697	15·8
Connaught . .	3,132,418	14·7
Ireland . . .	17,187,215	16·9

Based, to some extent, upon the preceding agricultural statistics of Ireland, the most reliable as yet obtained is the following table, containing an estimate of the extent of land in the United Kingdom under the principal descriptions of crops, with the produce per acre:—

Crops		Acres in Crop	Produce per Acre
England	Wheat . . .	3,600,000	Quarters 3½
	Barley . . .	1,200,000	4½
	Oats and Rye . . .	2,400,000	5
	Beans and Peas . . .	500,000	3½
	Potatoes, Turnips, & Rape . . .	2,500,000	7½ per acre
	Clover . . .	1,300,000	
	Fallow . . .	1,000,000	15½ per acre
	Hops . . .	50,000	
	Gardens . . .	250,000	15½ per acre
	Totals . . .	12,800,000	
Scotland	Wheat . . .	350,000	Quarters 3½
	Barley . . .	450,000	4
	Oats . . .	1,200,000	5
	Beans and Peas . . .	50,000	3
	Fallow . . .	100,000	7½ per acre
	Potatoes . . .	200,000	
	Turnips . . .	450,000	15½ per acre
	Clover . . .	450,000	
	Flax . . .	5,000	15½ per acre
	Gardens . . .	35,000	15½ per acre
Ireland	Wheat . . .	500,000	Quarters 3
	Barley . . .	320,000	3½
	Oats . . .	2,200,000	5
	Potatoes . . .	1,400,000	8½ per acre
	Fallow . . .	300,000	
	Flax . . .	140,000	15½ per acre
	Gardens . . .	15,000	12½ per acre
	Totals . . .	4,875,000	
Totals . . .		20,965,000	

The total net rental value at which the land in the United Kingdom was assessed in the financial year 1861-62 amounted to 54,678,412*l*. This amount does not include crown lands, nor land being the property of charities, all which are not assessed. By Act 38 Geo. III., the land tax to be raised in the United Kingdom was fixed at 2,037,627*l* 9*s*. ½*d*., which was apportioned thus:—

England and Wales . . .	£1,989,673 7 10½
Scotland . . .	47,954 1 2

The total land tax redeemed up to the 25th of March, 1864, amounted to—

England and Wales . . .	£766,842 5 10½
Scotland . . .	12,977 6 8½
Total . . .	£779,819 12 7½

A certain amount of land tax has been 'redeemed but not exonerated.' In this case, the tax is still charged and collected, but instead of being paid into the exchequer, is handed to the person on whose behalf the redemption has been made.

Rent.—The first authentic information in regard to the rent of land in Great Britain was obtained under the Property Tax Act. It appears from the returns made by the property tax commissioners, that the total rental of England and Wales amounted, in 1810, to 29,503,070*l*., and that of Scotland to 4,851,404*l*.. Owing to the rapid rise of prices, in the years immediately subsequent to 1810, the gross rental of England and Wales had increased, in 1815, to 34,330,462*l*., and that of Scotland to 5,975,242*l*.. Since then no authentic information has been published. The only approximative statistics on the subject

are found in the official returns of the value of the lands, houses, and other fixed property, assessed to the existing property and income tax. But this tax does not affect those holding lands and houses whose gross incomes are under 100*l*. a year; and in consequence a considerable number of the smaller class of proprietors were not assessed. As there is no account of the precise number or value of the properties thus excepted from the assessment, there are no means of arriving at the exact amount of the total gross annual value of the land and other fixed property. However, a summary of the returns in question may not be without interest, as showing the constant progress of the value of real property. The subjoined table exhibits the gross annual value of real property in *boroughs*, assessed to income tax under Schedule (A), in the two years—April 5—1862 and 1857. The striking increase in the value of property in England, and the very slight increase in that of Ireland, is remarkable.

	1862	1857
	£	£
England . . .	50,534,457	42,962,193
Scotland . . .	5,854,474	4,569,744
Ireland . . .	2,443,195	2,089,191
United Kingdom	58,832,126	49,621,128

The subjoined table gives the gross annual value of real property assessed under Schedule (A) in *counties* for the same periods:—

	1862	1857
	£	£
England . . .	69,535,506	60,534,060
Scotland . . .	9,274,064	8,013,005
Ireland . . .	10,957,351	9,826,095
United Kingdom	89,766,921	78,373,160

Adding together boroughs and counties, the summary will be as follows:—

	1862	1857
	£	£
England . . .	120,069,963	103,496,253
Scotland . . .	15,128,538	12,582,749
Ireland . . .	13,400,546	11,915,286
United Kingdom	148,599,047	127,994,288

Supply of Food.—Down to the peace of Paris, in 1763, England was in the habit in ordinary years of exporting large quantities of corn. But notwithstanding the astonishing improvements made in agriculture, and the consequent increase of produce since that epoch, there is now, owing to the still more rapid growth of our population, a necessity of importing supplies of all sorts of grain. The imports depend, in a great degree, on the produce of harvests; being comparatively large in bad, and comparatively small in favourable seasons. The quantities of corn imported in the United Kingdom in the two years 1862-3 is given in the subjoined statement:—

Quantities Imported	1862	1863
Wheat . . . Qrs.	9,469,270	5,622,501
Other kinds of Corn and Grain . . . Qrs.	6,905,921	8,234,898
Wheatmeal & Flour . Cwts.	7,207,112	5,218,976
Other kinds of Meal and Flour . . . Cwts.	17,935	14,812

The sums paid for these supplies of food from abroad in 1862-3 were as follows :—

Value of Imports	1862	1863
	£	£
Wheat	23,293,800	12,015,006
Other kinds of Corn and Grain	9,172,620	10,411,745
Wheatmeal and Flour	5,387,064	3,522,931
Other kinds of Meal and Flour	8,690	6,267

For her supplies of corn from abroad, the United Kingdom is happily not dependent on any one country, but relies upon a great number. In the two years 1862-3, the imports came from the following countries :—

From	1862	1863
	Gra.	Gra.
Russia, Northern Ports	477,307	541,228
Southern Ports	1,632,064	1,193,161
Sweden	570,729	850,995
Denmark and the Duchies	785,224	1,076,071
Prussia	1,854,561	1,771,013
Hanse Towns	409,518	379,845
Germany (Other Parts)	194,364	208,349
Holland	201,105	162,731
France	787,142	1,099,755
Spain	74,101	2,660
Italian States	236,019	144,907
Wallachia and Moldavia	358,470	437,680
Turkish Dominions, not otherwise specified	1,025,994	1,450,020
Egypt	1,300,893	1,079,311
British North America	1,646,146	920,071
United States	6,553,712	3,807,084
Other Countries	334,442	245,471
Total	18,441,791	15,353,352

Down to a late period various restraints were laid on the trade in corn; the tendency of which was to fetter importation, and artificially to elevate the home prices. All these restraints were repealed in 1846, when Parliament decided that on and after Feb. 1, 1849, only a nominal duty of one shilling per quarter was to be levied on corn. Much of the actual prosperity of the United Kingdom dates from this period.

Manufactures.—The manufactures of Great Britain are more extensive and important than those of any other nation. The kingdom may, indeed, be said to be purveyor of most descriptions of manufactured articles for all the world; and there are but few nations, how remote or barbarous soever, that are not indebted for some considerable portion of their comforts, and sometimes even of their necessities, to the skill and ingenuity of British artisans. A very large proportion of the people are engaged in, and directly depend upon, manufactures for their support; and they supply the materials of that commerce for which the United Kingdom is so peculiarly distinguished; and which extends to, civilises, and enriches almost every country of the globe.

There are no returns from which the actual produce of the manufactures of the United Kingdom can be ascertained; but the magnitude of this industrial activity may be measured, to some degree, by the exports sent to foreign countries. These, in all probability, embrace not more than half the actual produce, the other half being retained for home consumption. There are five principal articles of export, namely, cotton manufactures; woollen ditto; metals, chiefly iron and steel; linen manufactures; and haberdashery and millinery. The total value of these manufactures

of the United Kingdom, exported in 1862 and 1863, is given in the following table :—

Articles Exported	1862	1863
	£	£
1. Cotton manufactures :		
Piece goods, white or plain	16,216,399	23,291,464
Do. printed, checked, or dyed	12,346,067	14,250,001
Do. of other kinds	1,986,265	1,882,325
Cotton yarn	6,202,240	8,019,954
Total of cotton manufactures	36,750,971	47,443,964
2. Woollen and worsted manufactures :		
Cloths, coatings, &c., un-		
mixed and mixed	4,425,122	4,006,012
Flannels, blankets, blanket-		
ing, and baizes	1,388,592	1,411,560
Worsted stuffs, unmixed and		
mixed	5,881,789	8,327,729
Carpets and druggets	671,215	810,319
Of all other sorts	761,713	963,222
Total of woollen and worsted manufactures	13,148,431	15,518,842
3. Metals :		
Iron, pig and puddled	1,203,641	1,296,361
" bar, angle, bolt, and rod	2,250,964	2,560,257
" railroad, of all sorts	2,817,877	3,290,319
" wire	314,893	330,933
" cast	674,142	732,253
" hoops, sheet and boiler		
plates	1,318,917	1,682,685
wrought, of all sorts	1,937,317	2,171,119
" old, for re-manufacture	96,464	51,614
" steel, unwrought	848,333	935,906
Total of iron and steel	11,365,150	13,111,477
4. Linen manufactures :		
White or plain, damask, &c.	4,192,359	5,329,101
Printed, checked, or dyed	200,665	264,260
Sailcloth	256,078	327,938
Of other sorts	482,834	568,662
Total of linen manufactures	5,133,936	6,509,970
5. Haberdashery and millinery	3,573,622	4,362,319

The following estimates represent the approximate value of British manufactures in 1840, as drawn from property assessment and custom-house returns :—

	£
Cotton	35,000,000
Woollen	26,000,000
Iron and Hardware	22,000,000
Watches, Jewellery, &c.	3,000,000
Leather	13,500,000
Linen	8,000,000
Silk	10,000,000
Glass and Earthenware	4,250,000
Paper	2,500,000
Hats	2,000,000

Comparing these figures with the preceding table, and admitting the value of total exports of each article as amounting to about one-half the actual produce, it will be found that the manufacturing industry of the United Kingdom has progressed somewhat unequally in the course of a quarter of a century. While some branches of industry, such as the making of cotton goods, have apparently more than doubled, others have grown but little. However, the estimates of manufactures in 1840 are very vague, and may be wide of the mark. But they exhibit, if nothing else, the vast extent and importance of British manufactures. It would be desirable, on many accounts, to be able to separate the sums mentioned above as constituting the gross annual value of the principal manufactures into their constituent parts, that is, to show how much of the total value of any

branch of manufacture is made up of raw produce, or of the value of some other branch of manufacture embodied in it, and how much consists of the wages of labour and superintendence, and how much of the profits and wear and tear of capital. But to do this is, in many cases, next to impossible; and in all cases, the greatest care and circumspection are required to avoid falling into the most serious errors. It is necessary also to observe, that considerable care is always required in drawing conclusions from the gross value of any manufacture, in regard to the addition really made by it to the aggregate wealth of the country. Thus, assuming the gross annual value of the woollen manufacture to be about 30,000,000*l.* a year, we should fall into the greatest imaginable error, if we supposed, as is commonly done, that it made an annual addition of that amount to the gross produce of the country. Of this sum of 30,000,000*l.*, nearly a half, or about 15,000,000*l.*, may consist of the value of the wool; and the value of the British wool, which is by far the largest portion of the whole, being already included in the estimate of the annual produce of agriculture, would be reckoned twice over were it also included in the estimate of the produce of the woollen manufacture. The same caution must be used in almost every case; and unless it be carefully attended to, none but the most misleading inferences need be looked for.

Comparing the table of exports with the preceding one, giving the value of the imports of corn and bread-stuff, it will be seen that the exports of cotton manufactures alone more than pay for the supply of food derived from foreign nations. The total imports of corn into the United Kingdom, in the year 1862, were of the value of 87,772,194*l.*, while the total exports of cotton manufactures amounted to 86,750,971*l.* This was a very unfavourable year, there having been a deficient harvest; and the next annual period showed a very different result. In the year 1863, the total value of the corn imports amounted to 25,955,939*l.*, while the exports of cotton manufactures reached 47,443,964*l.* The statistics of the latter year showed, on the whole, a fair average of imports and exports, and as such may be taken as a basis for further calculations on the manufacturing industry of the United Kingdom.

The progress made by Great Britain in manufactures, since the middle of last century, has been quite unprecedented. At that period the quantity of iron produced in England and Wales is not supposed to have exceeded 18,000 tons a year; but the application of pit-coal to the production of iron having soon after become pretty general, the manufacture began gradually to increase, the produce in 1788 being estimated at 68,000 tons, in 1796 at 125,000 tons, and in 1806 at 250,000 tons. Since this last mentioned period, the progress of the iron trade has been such that, as already stated, there were not less than 8,943,469 tons of iron produced in the year 1862. The business has now become of the very highest importance. Iron is employed with the greatest advantage in many ways for which it was formerly supposed not to be at all suitable, such as the construction of ships. And it is to the cheapness and abundance of our supply of iron, as much as to anything else, that the superiority of our machinery, and consequently of most branches of our manufactures, is to be ascribed.

But the progress of the British cotton manufacture, since 1760, is undoubtedly the most extraordinary phenomenon in the history of industry. In 1764 the consumption of raw cotton

did not amount to 4 million lbs., whereas the imports, in the year 1863, reached 5,978,422 cwt., valued at 56,277,953*l.* It is difficult to give any very satisfactory explanation of this astonishing progress. Much, no doubt, must be ascribed to the influence of the general causes already specified, but much also has been owing to what may be called accidental circumstances. The cotton manufacture may, in fact, be said to be wholly the result of the inventions and discoveries of Hargreaves, Arkwright, Watt, Crompton, and a few other Englishmen which gave to the country that priority and early superiority in the manufacture, which a favourable situation in other respects has enabled her to maintain. It is seldom an easy matter for new rivals to come into successful competition with those who have already attained to considerable proficiency in any art or manufacture; and they rarely succeed, unless they have some very material advantage on their side. But in this instance, besides having the start of foreigners, the natural and moral circumstances under which British manufacturers have been placed have given them advantages not enjoyed in anything like the same degree by the manufacturers of any other country. Were any change or revolution effected in machinery that should admit of coal being advantageously dispensed with, it is difficult to say what effect it might have in the long run on British manufactures. While, however, coal continues to be as indispensable in industrious undertakings as at present, and while the kingdom retains her free institutions, there is but little ground for supposing that her manufacturing prosperity will be impaired. On the contrary, it is reasonable to expect, seeing the increasing wealth of foreign customers, the greater competition at home and abroad, and the greater attention paid to scientific investigations, that it will go on increasing, and that the discoveries and progress to be made in the next age will surpass those made in the present, wonderful as they have been.

Commerce.—Neither the commerce of Tyre or Carthage in antiquity, nor that of Italy in the middle ages, nor of Holland in the 17th century, could compare for the variety and value of the products which it distributes, and the all but unlimited range which it embraces, to the existing commerce of England. British products are found in every country, and the British flag floats over every sea. And as all commerce is based on a principle of reciprocity, and is sure to stimulate the industry and to add to the wealth of all who engage in it, it may safely be affirmed, that while the people of Britain are pursuing only their own interests, they are contributing in the most effectual manner to diffuse the blessings of civilisation, and a taste for luxury and refinement. It is impossible, indeed, to overrate the beneficial influence of that commerce of which the United Kingdom is the centre and mainspring. No one aware of its vast extent can have the smallest doubt that it is by far the most important means of civilisation and improvement ever brought into active operation. And it may be concluded, that instead of having approached its zenith, it will continue to increase with the increasing wealth, and consequently growing wants, of the various nations it is now rousing to activity and enterprise; and that it will derive new vigour, and have its foundations widened and consolidated, by every circumstance calculated to promote the industry and to add to the riches of the nations of the earth.

Philosophically speaking, all organised society resolves itself into a series of exchanges; every individual is in some sort a merchant; and the principal business of life consists in the exchange of

one sort of service or article for another. Hence in all countries the mercantile transactions carried on at home, or in the *home trade*, infinitely exceed in number and value those carried on with foreigners, or in the *foreign trade*. The latter, however, is not on that account the less important or valuable. But for the intercourse carried on with foreigners Great Britain would be wholly destitute of many most desirable products—such as tea, coffee, wine, the precious metals, &c., as well as of the raw material of many most important manufactures, including those of cotton and silk. Generally, too, manufactures are improved and perfected according to the scale on which they are carried on; so that an extensive commerce is at once a consequence and a cause of manufacturing pre-eminence. The cotton mills of Lancashire and Lanarkshire could not have been constructed had the demand for their produce been confined to the empire only: they have not been built to supply the limited consumption of Great Britain and Ireland, but the unlimited consumption of the world.

It is impossible to form any estimate of the extent of the home trade carried on in any great country, or of the exchanges effected amongst its citizens. Formerly, accurate accounts were kept of the cross-channel trade between Great Britain and Ireland; but, with the exception of corn, no official account is now kept of the products conveyed from the one to the other. However, this is not the case with the trade with foreign countries. Duties being laid on most articles imported from abroad, it is necessary for fiscal purposes that their amount should be ascertained with as much accuracy as possible; and it is believed that the declarations of the real value of the exports made by the exporters do not differ materially from the truth.

The trade carried on with colonies, or the colonial trade, though conducted under different regulations and duties, is substantially the same with the foreign trade; and may be, and indeed generally is, considered as a branch of the latter.

Subjoined are a few general statements respecting the principal articles imported from and exported to the countries with which the United Kingdom has the greatest intercourse.

Russia—Imports from:—Tallow, corn, flax and hemp, flax and linseed, timber, bristles, ashes, hides, iron, and wax. Exports to:—Cotton twist, woollen fabrics, salt, coal, hardware, colonial products, &c.

Sweden and Norway—Imports from:—Timber, iron and bark. Exports to:—Cottons and cotton yarn, woollens, earthenware, hardware, coffee, indigo, tobacco, sugar, &c.

Denmark—Imports from:—Corn and rape-seed, butter, bristles, wool, hides, and bark. Exports to:—Coal, salt, iron and steel, earthenware, machinery, coffee, indigo, &c.

Prussia—Imports from:—Corn, oak and fir timber, bark, bristles, wool, spelter, flax, &c. Exports to:—Refined sugar, salt, cottons, hardware, earthenware, &c. Our trade with Prussia is principally carried on through Hamburg.

Germany—Imports from:—Wool, corn, wines, butter, linens, hides, clover, rape-seed, smaltz, spelter, zaffre, furs, wooden clocks, &c. Exports to:—Cotton stuffs and yarn, woollens, refined sugar, hardware, earthenware, iron and steel, coal, salt, indigo, coffee, rum, tobacco, cotton wool, spices, &c. A good deal of the imports from and exports to Holland and Belgium are on German account.

Netherlands—Imports from:—Butter, cheese, corn, madder, geneva, flax and tow, hides, linens, seeds, toys, &c. Exports to:—Cotton stuffs and

yarn, woollens, hardware, earthenware, salt, coal, and colonial produce.

France—Imports from:—Brandy, wine, silk (raw and manufactured), gloves, madder, eggs, skins, and fruit. Exports to:—Wool, linens and linen yarn, brass and copper manufactures, machinery, coal, horses, &c. Large quantities of Nottingham lace are smuggled into France, and brandy into England.

Portugal and Spain—Imports from:—Port and sherry wines, barilla, wool, raisins, dried fruits, lemons, oranges, olive oil, quicksilver, &c. Exports to:—Cotton stuffs, woollens, linens, hardware and cutlery, iron and steel, soap, candles, leather, and cinnamon.

Italy—Imports from:—Thrown silk, olive oil, straw for plaiting, straw plait and hats, currants, lemons, oranges, wine, barilla, shumac, bark, cheese, lamb-skins, hemp, &c. Exports to:—Cotton stuffs and yarn, refined sugar, woollen manufactures, hardware and cutlery, iron and steel, coffee, indigo, tobacco, pimento, &c.

Turkey, Greece, &c.—Imports from:—Silk, opium, madder, figs, raisins, valonea, oil, cotton, currants, senna, &c. Exports to:—Cotton manufactures and twist, linens, hardware, iron and steel, cordage, woollens, earthenware, indigo, and coffee.

Egypt and Africa—Imports from:—Cotton wool, flax, linseed, senna and other drugs. Exports to:—Cotton manufactures, iron and steel, arms and ammunition, and machinery.

Foreign West Indies—Imports from:—Sugar, coffee, cotton, cigars, &c. Exports to:—Cotton manufactures, earthenware, linen manufactures, hardware, iron and steel, woollens, glass, machinery, &c.

United States—Imports from:—Cotton, tobacco, wheat flour, wheat, rice, maize, skins and furs, hides, staves, &c. Exports to:—Cotton, linen, and woollen manufactures, hardware, cutlery, earthenware, salt, brass, and copper, apparel, books, &c.

South American States—Imports from:—Cotton wool, sugar, coffee, bullion and precious stones, cocoa, hides, fruits, bark, dye-woods, furs, &c. Exports to:—Cotton, linen, and woollen manufactures, earthenware, hardware, soap, candles, &c.

African British Colonies—Imports from:—Cape and Constantia wines, hides, ivory, skins, aloes, palm-oil, teak, timber, wax, dye-woods, sugar from the Mauritius, &c. Exports to:—Cotton, woollen, and linen manufactures, apparel, earthenware, hardware, iron and steel, soap, candles, stationery, fire-arms, salt, machinery, &c.

Asia and Australia—Imports from:—Tea, wool, indigo, cotton, sugar, silk, coffee, pepper, saltpetre, piece-goods, rice, lac-dye, cinnamon, mace, cloves, cocoa-nut-oil, whale-oil, ivory, tin, and the precious metals. Exports to:—Cotton stuffs and yarn, woollens, linens, earthenware, copper, hardware, iron and steel, leather, glass, machinery, &c.

American British Colonies—Imports from:—Timber, furs, fish, corn, ashes, skins, turpentine, &c. Exports to:—Woollens, cottons, linens, hardware, iron and steel, soap, candles, earthenware, apparel, glass, cordage, coal, butter, cheese, &c.

British West Indies—Imports from:—Sugar, coffee, rum, cotton, pimento, molasses, mahogany, logwood, fustic, cocoa, cochineal, ginger, hides, &c. Exports to:—Cotton stuffs, linens, woollens, apparel, soap, candles, hardware, iron and steel, fish, earthenware, cordage, beef and pork, arms and ammunition.

The declared real value of the total imports and exports of merchandise into and from the United Kingdom for the years 1862 and 1863 is shown in the following table:—

	1862	1863
	£	£
Imports	225,716,976	248,980,942
Exports { British Produce	123,992,264	146,489,768
{ Foreign and Colonial	42,175,870	49,485,005
Total Exports	166,168,134	195,974,773
Total of Imports and Exports	391,885,110	444,955,715

The various countries of the world divided among them the imports into the United Kingdom in the following manner in the years 1862 and 1863. The value given is after the official returns of the Board of Trade; but the countries are placed in the order of their commercial importance in the year 1863.

VALUE OF IMPORTS.

	1862	1863
	£	£
British Possessions:—		
India	34,133,551	48,434,517
British North America	8,499,393	8,165,669
Australia	7,109,809	7,160,638
West India Islands	4,180,870	3,998,354
Ceylon	2,488,262	3,700,806
Bahamas	463,972	2,282,713
Mauritius	967,714	1,986,270
Cape and Natal	1,517,851	1,919,843
Singapore	2,375,813	1,830,522
British Guiana	1,561,543	1,510,500
Hongkong	154,721	1,288,907
Bermudas	78,642	820,314
Channel Islands	645,801	648,508
Belize	299,746	298,017
Ionian Islands	389,254	192,879
Western Africa	234,774	191,207
Malta	110,819	152,562
Gibraltar	97,559	69,130
Falkland Islands	20,131	17,114
St. Helena	2,424	16,255
Aden	33	2,983
Ascension	1	12
Helligoland	568	—
Total of British Poss.	65,283,251	84,693,720
France	21,675,516	24,024,619
United States	27,715,157	19,570,815
Egypt	12,225,783	16,495,531
Germany:—		
Hanse Towns	5,957,260	6,916,213
Prussia	7,833,927	6,231,717
Mecklenburg	260,977	219,505
Hanover	276,253	189,643
Oldenburg	20,952	34,656
Total of Germany	14,349,369	13,591,734
China	11,982,374	12,906,642
Russia	15,101,059	12,419,910
Netherlands	7,863,031	8,660,278
Turkey	5,020,474	6,025,545
Belgium	4,876,212	5,174,221
Spain	3,931,191	5,070,838
Foreign West Indies	4,439,516	4,580,663
Brazil	4,414,187	4,491,000
Sweden and Norway	3,804,189	4,463,212
Peru	2,394,092	3,565,328
Portugal	2,404,212	2,672,732
Denmark	2,165,040	2,420,513
Italy	2,597,354	2,355,583
Mexico	619,508	2,294,337
Chili	2,863,434	2,288,863
Western Africa	1,719,801	1,412,284
Philippine Islands	708,866	1,392,198
Japan	591,885	1,283,631
Argentine Republic	1,133,071	1,239,651
Uruguay	992,328	1,220,629
Greece	797,568	989,439

VALUE OF IMPORTS.

	1862	1863
Austrian Territories	£1,179,844	£879,457
New Granada	811,304	774,311
Central America	492,340	485,918
Morocco	494,071	427,894
Hayti and San Domingo	151,719	276,610
Bolivia	341,982	269,196
French Possessions in India	166,176	117,036
Algeria	47,264	104,204
Northern Whale Fishery	102,623	72,398
Equador	95,023	68,608
Borneo	32,212	45,555
Eastern Africa	—	34,406
Persian Gulf	801	31,601
Venezuela	9,397	23,767
Java	96,026	22,417
Siam	37,824	20,746
Pacific Islands	19,630	19,967
Tunis	1,532	10,314
Patagonia	2,200	2,251
Papal Ports	957	1,099
Arabia	—	2
Tripoli	6,078	—
Persia	5	—
Total	225,716,976	248,980,942

The value of imports into the United Kingdom increased from 217,485,024*l.* in 1861, to 248,980,942*l.* in 1863, showing a difference of 31,495,918*l.* The whole of this increase was in Colonial produce, the augmentation of which in the two years was 32,017,710*l.* First in the list of foreign importers, in the place formerly occupied by the United States, stands France, which, in the year 1863, found in the people of Great Britain customers for the products of her industry to the amount of more than 24,000,000 sterling, or about a tenth part of the entire total we take from all the countries of the world. Next comes Egypt, which in the course of a few years has doubled her import trade with the United Kingdom. Turkey, although she is lower in the list, likewise continues to make progress. From Japan the imports more than doubled in 1863, compared with the preceding year. Among the remaining countries, the principal of those which present an increase are China, the Netherlands, Belgium, Sweden, Portugal, Denmark, the Philippine Islands, the Argentine Republic, Uruguay, Greece, and Hayti. Those showing a decrease are Germany, Russia, Italy, Western Africa, New Granada, and Bolivia.

The exports of British produce during the years 1862 and 1863 were divided between the following British possessions and foreign countries. The returns are those of the Board of Trade; but the countries are arranged in the order of their importance as buyers of British produce.

VALUE OF EXPORTS.

	1862	1863
	£	£
British Possessions:—		
India	14,617,673	19,995,657
Australasia	11,944,506	12,506,334
British North America	3,991,010	4,819,080
West Indies	2,304,917	2,636,164
Singapore	1,064,681	1,486,813
Hongkong	1,113,224	1,473,431
Gibraltar	996,918	1,267,911
Cape of Good Hope	1,651,534	1,230,548
Ceylon	573,998	1,076,023
Channel Islands	851,518	866,216
Malta	432,731	623,144
Bermuda	218,859	612,442
Mauritius	519,868	521,838
Guiana	481,254	513,557
Ionian Islands	282,349	405,177
Western Africa	349,619	328,553
Natal	240,202	281,982

	1853	1863
British Poss. <i>continued</i> :—	£	£
Honduras	108,273	166,082
Aden	47,301	45,017
St. Helena	49,562	33,545
Caffraria	29,517	11,851
Falkland Islands	9,716	11,303
Ascension	11,415	7,056
Labuan	4,694	—
Heligoland	116	—
Total of British Poss.	41,895,349	50,919,654
United States	14,327,870	15,351,626
Germany :—		
Hanse Towns	9,740,386	10,665,612
Prussia	2,045,079	1,916,900
Hanover	758,334	568,497
Mecklenburg	81,841	72,517
Oldenburg	49,710	54,838
Total of Germany	12,675,300	13,278,334
France	9,200,367	8,667,162
Netherlands	6,046,242	6,317,545
Turkey	4,244,865	6,881,438
Italy, exclud. Roman States	5,056,329	5,903,233
Egypt	2,405,982	4,416,240
Brazil	3,735,781	3,964,557
Spain	3,000,098	3,633,151
Foreign West Indies	2,674,429	2,957,794
Russia	2,078,832	2,701,040
China	2,024,118	2,412,958
Portugal	1,670,904	2,382,043
Belgium	1,829,622	2,106,334
Mexico	757,823	1,077,622
New Granada	783,105	1,570,082
Chili	954,542	1,433,119
Argentine Republic	854,213	1,331,188
Peru	824,585	1,027,959
Denmark	941,771	1,005,321
Austrian Territories	787,058	1,002,367
Western Africa	939,208	655,238
Java	776,664	652,025
Sweden	603,013	605,591
Norway	506,059	558,149
Philippine Islands	458,404	556,863
Uruguay	453,790	534,741
Hayti and St. Domingo	473,400	528,904
Venezuela	224,825	389,361
Greece	248,223	341,991
Morocco	155,135	174,550
Islands in the Pacific	24,402	141,119
Central America	166,376	140,799
Japan	21	108,897
Cochin-China	247	36,597
Papal Ports on Mediter.	46,991	27,005
Cape Verde Islands	18,487	20,522
Eastern Africa	24,235	15,289
Madagascar	—	13,085
Siam	21,907	11,958
Algeria	46,253	11,732
Ecuador	1,076	9,878
Portuguese Poss. in India	—	7,211
Tunis	1,358	4,924
Arabia, Native Territories	—	1,189
Northern Whale Fishery	160	23
Persia	22,517	—
Paraguay	1,764	—
Bolivia	664	—
Total	123,992,264	146,489,768

It will be seen from the preceding table that the three best customers of Great Britain in the year 1863, were India, the United States, and Germany. In the total exports of British and Irish produce there was an increase of 18 per cent. in 1863, compared with that of the preceding year. The increase was chiefly due to the largely augmented shipments to British possessions, which took about 51,000,000 of goods, or considerably more than one-third of the sum total of all the exports.

The subjoined tables exhibit the growth of British commerce in the course of the century. The figures given are *official value*, differing, as is well known, greatly from *real or declared value*. The tables, compiled from official returns, give the value of the total import and export trade of Great Britain with foreign countries and British possessions abroad, arranged under triennial periods.

Triennial Periods	Total Imports	Total Exports
	Official value	Official value
	£	£
Years ending 5 January 1799	25,122,203	27,317,067
" " 1800	24,066,700	29,556,637
" " 1801	28,257,781	34,381,617
Annual Average of the Triennial Period	25,815,561	30,418,447
Years ending 5 January 1819	35,845,340	52,796,135
" " 1820	29,681,640	42,862,925
" " 1821	31,515,222	48,345,219
Annual Average of the Triennial Period	32,347,401	48,001,383
Years ending 5 January 1839	59,878,905	104,805,698
" " 1840	60,346,066	109,718,119
" " 1841	65,873,411	116,030,445
Annual Average of the Triennial Period	62,032,794	110,184,750
Years ending 31 December 1858	132,633,799	305,250,634
" " 1859	140,229,754	334,031,566
" " 1860	158,452,924	358,965,566
Annual Average of the Triennial Period	143,772,159	332,715,943
Years ending 31 December 1861	163,964,004	339,253,757
" " 1862	152,813,458	291,326,441
" " 1863	164,240,553	312,868,774
Annual Average of the Triennial Period	160,339,338	314,489,657

The *official values* here given are no more applicable to the present moment; nevertheless, as they constitute the old official records, they alone can serve for comparative purposes. The rates by which the official values are estimated were fixed in 1696, and, owing to the increase of manufactures and the cheapening of nearly all goods, they now are much above the *real value*, although they at first were as much below.

The subjoined two tables give the *real or declared value* of the total import and export trade of the United Kingdom with foreign countries and British possessions abroad, in the two triennial periods 1858-60, and 1861-63.

Triennial Periods	Total Imports	Total Exports
	Real Value	Real Value
	£	£
Years ending 31 December 1858	159,351,301	139,408,629
" " 1859	173,852,915	155,202,177
" " 1860	203,408,636	164,236,399
Annual Average of the Triennial Period	178,870,950	152,949,265
Years ending 31 December 1861	209,871,962	159,402,106
" " 1862	217,773,030	165,956,257
" " 1863	242,202,958	196,709,073
Annual Average of the Triennial Period	223,282,650	174,022,479

The relative importance of the twelve principal ports of the United Kingdom in regard to the

value of exports of British and Irish produce is shown in the following table, compiled from returns of the inspector-general of imports and exports, made on June 20, 1864, and in June 1863. The figures exhibit the declared value of British and Irish produce and manufactures exported from the respective ports to foreign countries and British possessions abroad, in the years 1862 and 1863 :—

Ports	Exports	
	1862	1863
	£	£
Liverpool . . .	50,297,135	65,154,222
London . . .	31,523,612	36,211,510
Hull . . .	11,916,375	13,556,254
Glasgow . . .	5,776,003	6,770,365
Southampton . . .	3,379,508	4,071,991
Newcastle . . .	1,968,118	1,594,281
Leith . . .	1,298,099	1,552,899
Greenock . . .	820,225	455,021
Bristol . . .	298,260	341,674
Cork . . .	182,130	108,102
Dublin . . .	48,777	38,196
Belfast . . .	4,188	12,041
Total . . .	106,962,555	130,166,569

It will be seen that as regards the value of British exports, Liverpool stands at the head of all the ports of the United Kingdom, the merchandise passing through it being equal in amount to that of all the other eleven ports together. However, the relation is very different as regards the quantity of shipping, and especially the number of inward-bound vessels. It will be interesting, in this respect, to compare the above table with that in the lower part of the second column of page 559.

Roads and railways—The means of internal communication in Great Britain are probably superior to those enjoyed by any other country. The ordinary high roads, which, during the first half of last century, were execrable, have been signally improved since the close of the American war; and since the general introduction of the practice of *macadamising*, they may be confidently pronounced to be the very best in Europe. With the exception of Holland and Belgium, no country is better supplied with canals; and by these means, and the aid afforded by numerous navigable rivers, the conveyance of the bulkiest articles has been rendered both easy and cheap. It is now, however, obvious that railroads are destined to supersede the former methods of conveyance, in so far at least as the transit of passengers and of the lighter and more valuable species of goods is concerned; and the wonderful speed with which lengthened trains of carriages are impelled by steam-engines along these roads, is among the most valuable and astonishing results of modern science and discovery. By facilitating travelling to a degree that could not, a few years ago, have been conceived possible; rendering all the great markets of the empire easily accessible to the products of the remotest districts; obliterating local prejudices and customs; reducing the country to a homogeneous mass; and producing everywhere a spirit of emulation and competition, these improved means of communication are exercising an influence of the most powerful kind, and which cannot be too highly appreciated.

Subjoined are some statistics of the railways in the United Kingdom, in each of the years 1860, 1861, and 1862.

Railways		United Kingdom
CAPITAL, &c. Total Paid up for lines in each division of the Kingdom to 31st December in each year.		
Shares and Stock :—		£
Ordinary	1860	190,790,867
	1861	193,591,991
	1862	192,077,589
	1860	67,873,840
Preference	1861	73,794,336
	1862	87,792,380
Total	1860	258,664,707
	1861	267,376,327
	1862	284,869,969
Loans and Debenture Stock	1860	89,464,430
	1861	94,951,011
	1862	100,348,469
Total	1860	348,130,137
	1861	362,327,338
	1862	385,218,438
LENGTH OF LINES :—		Miles
Total Opened for traffic up to 31st Dec. in each year	1860	10,433
	1861	10,869
	1862	11,551
TOTAL PASSENGERS CONVEYED	1860	163,483,572
	1861	173,773,218
	1862	180,485,737
GOODS CONVEYED :—		Tons
General Merchandise	1860	29,470,931
	1861	30,638,893
	1862	30,256,913
Minerals	1860	60,386,788
	1861	63,604,434
	1862	63,405,864
LIVE STOCK CONVEYED—		No.
Cattle	1860	2,616,805
	1861	2,920,870
	1862	3,094,183
Sheep	1860	7,357,506
	1861	7,933,961
	1862	7,800,928
Pigs	1860	2,109,192
	1861	2,016,852
	1862	1,989,892
Total	1860	12,083,503
	1861	12,870,638
	1862	12,885,003
RECEIPTS FROM PASSENGERS.		
1st Class :—		£
Total Receipts	1860	3,170,935
	1861	3,143,256
	1862	3,332,380
Proportion from 1st Class to Total Receipts from Passengers	1860	37.45
	1861	36.75
	1862	27.10
Average per Passenger	1860	d.
	1861	89.85
	1862	84.42
Average per Mile of Mean Length of Railways	1860	£
	1861	813
	1862	295
2nd Class :—		
Total Receipts	1860	3,944,713
	1861	3,933,119
	1862	4,018,221
Proportion from 2d Class to Total Receipts from Passengers	1860	Per Cent.
	1861	34.15
	1862	33.47
Average per Passenger	1860	d.
	1861	19.30
	1862	18.46
Average per Mile of Mean Length of Railways	1860	£
	1861	386
	1862	348

Railways	United Kingdom
3rd Class and Parliamentary :	
Total	1860 4,162,487
	1861 4,386,700
	1862 4,639,250
Proportion from 3rd Class to Total Receipts from Passengers	1860 36.04
	1861 37.33
	1862 37.73
Average per Passenger	1860 10.65
	1861 10.46
	1862 10.56
Average per Mile of mean Length of Railways	1860 407
	1861 412
	1862 401
Periodical Tickets	1860 272,807
	1861 287,828
	1862 305,422
TOTAL RECEIPTS FROM PASSENGERS	1860 11,550,942
	1861 11,750,903
	1862 12,295,273
ROLLING STOCK :—	No.
Locomotives	1860 5,801
	1861 6,156
	1862 6,398
Carriages used for Conveyance of Passengers only	1860 15,076
	1861 14,609
	1862 15,366
MILEAGE TRAVELLED BY TRAINS :—	Miles
By Passenger Trains	1860 52,816,579
	1861 54,055,476
	1862 57,542,831
By Goods Trains	1860 49,427,113
	1861 51,085,964
	1862 50,518,966
Total	1860 102,243,692
	1861 105,141,440
	1862 108,061,797
NUMBER OF TRAINS :—	No.
Passenger	1860 2,356,558
	1861 2,352,339
	1862 2,553,993
Goods	1860 1,540,402
	1861 1,529,651
	1862 1,600,764
Total	1860 3,896,960
	1861 3,881,990
	1862 4,154,757
ACCIDENTS—from all Causes :	
Persons Killed :—	
Passengers	1860 23
	1861 79
	1862 35
Servants of Companies, &c.	1860 9
	1861 205
	1862 181
Persons Injured :—	
Passengers	1860 251
	1861 789
	1862 536
Servants of Companies, &c.	1860 33
	1861 94
	1862 64
By Accidents to Trains: (In 1862)	
From Collisions between Trains, &c.	Persons killed 26
From running off proper Lines by Points being wrong, &c.	Persons killed 15
From Breaking of parts of Engines and Carriages, &c.	Persons killed 5
	Persons injured 47

The cheapness of the transport of both goods and passengers by railway has been one of the main reasons of the enormous progress of this new means of locomotion. However, it is probable that a minimum of cost has been by no means at-

tained, judging from the fact that some lines charge twice or even three times as much as others for conveyance. The subjoined table shows the average fares on the principal railways of the United Kingdom, for each of the three usual classes of passengers, in the year 1862 :—

England and Wales	First Class	Second Class	Third Class
	d.	d.	d.
Bristol and Exeter	2.28	1.70	0.99
Cornwall	2.64	1.77	0.99
Great Eastern	2.50	2.00	1.00
Great Northern	2.13	1.60	0.99
Great Western	2.08	1.55	0.96
Lancashire and Yorkshire	1.60	1.35	0.76
London, Brighton, and S. Coast	2.04	1.47	0.89
London, Chatham, and Dover	2.14	1.52	0.93
London and North Western	1.97	1.45	0.93
London and South Western	2.42	1.72	0.98
London and Blackwall	2.54	1.69	0.96
London, Tilbury, and Southend	1.03	0.68	0.74
Manchester, Sheffield, & Lincoln	2.53	1.80	0.98
Manchester, South Junction, and Altrincham	1.44	1.14	0.78
Midland	2.37	1.72	0.97
Monmouthshire Railway and Canal	2.47	1.48	0.93
North London	0.71	0.42	0.42
North Eastern	2.27	1.57	0.89
North Staffordshire	2.00	1.50	1.00
South Eastern (including London and Greenwich)	1.73	1.28	0.78
South Yorkshire Railway and River Don	1.86	1.40	0.94
Stockton and Darlington	2.26	1.61	1.17
South Devon	2.57	1.72	0.98
St. Helen's Canal and Railway	1.95	1.58	0.93
Taff Vale Railway	2.05	1.55	1.00
West Midland	2.73	1.77	0.99

Scotland and Ireland	First Class	Second Class	Third Class
	d.	d.	d.
SCOTLAND.			
Caledonian	1.29	1.19	0.71
Deeside	1.43	—	0.89
Dundee, Perth, and Aberdeen Junction	2.00	1.37	0.96
Edinburgh and Glasgow	1.99	1.20	0.97
Glasgow and South Western	1.79	1.33	0.89
Great North of Scotland	1.75	—	0.99
Inverness & Aberdeen Junction	2.00	—	0.99
North British	1.96	1.56	0.99
Scottish Central	2.18	1.55	0.96
Scottish North Eastern	2.00	1.50	0.99
IRELAND.			
Belfast and Northern Counties	1.89	1.36	0.84
Belfast and County Down	1.24	0.97	0.59
Cork, Blackrock, and Passage	1.63	1.22	0.81
Dublin and Belfast Junction	2.30	1.72	0.98
Dublin and Drogheda	1.62	1.21	0.78
Dublin and Kingstown, and Dublin, Wicklow, & Wexford	1.99	1.50	0.86
Great Southern and Western	2.20	1.65	0.99
Irish North Western	2.10	1.60	1.00
Midland Great Western of Ireland	2.15	1.70	1.00
Ulster	1.97	1.48	0.96
Waterford and Limerick	2.28	1.66	1.00

The immense importance of railways, while it has induced many continental governments to make them state institutions, like the Post Office, has also led the Parliament of the United Kingdom to a distinct assertion of control.

Shipping.—The mercantile marine of Great Britain first began to attain to considerable importance in the reign of Elizabeth; and it has continued progressively to increase with the increasing colonies and commerce of the country. The subjoined tables give a view of its present magnitude, and of the navigation of the empire. Subjoined is a statement of the total tonnage of British and foreign vessels—sailing and steam—which entered

and cleared at ports in the United Kingdom in the fifteen years 1849 to 1863:—

Years	Entered		
	British	Foreign	Total
	Tons	Tons	Tons
1849	4,884,210	2,035,090	6,919,900
1850	4,700,199	2,400,277	7,100,476
1851	4,938,386	2,933,708	7,872,094
1852	4,934,863	2,952,584	7,887,447
1853	5,055,343	3,887,763	8,943,106
1854	5,374,551	3,786,815	9,161,366
1855	5,270,792	3,680,447	8,951,239
1856	6,390,715	4,162,419	10,553,134
1857	6,853,705	4,621,484	11,475,199
1858	6,439,201	4,522,499	10,961,700
1859	6,565,112	4,656,810	11,221,922
1860	6,889,009	5,253,776	12,142,785
1861	7,721,035	5,458,554	13,179,589
1862	7,856,639	6,234,451	13,091,090
1863	8,430,146	4,825,917	13,256,063

Years	Cleared		
	British	Foreign	Total
	Tons	Tons	Tons
1849	4,785,428	2,259,060	7,044,488
1850	4,742,345	2,662,243	7,404,588
1851	4,882,490	3,225,614	8,108,104
1852	5,051,106	3,191,596	8,242,702
1853	5,212,980	4,234,124	9,447,104
1854	5,370,298	4,137,423	9,507,721
1855	5,648,940	3,889,291	9,538,231
1856	6,555,056	4,480,859	11,035,915
1857	6,840,402	4,863,191	11,703,593
1858	6,452,204	4,896,077	11,348,281
1859	6,726,731	4,955,606	11,682,337
1860	7,025,914	5,490,593	12,516,507
1861	7,699,497	5,716,555	13,416,052
1862	8,090,221	5,354,128	13,444,349
1863	8,589,246	4,893,424	13,482,670

The subjoined table gives the total number and tonnage of registered sailing and steam vessels—exclusive of river steamers—of the United Kingdom, employed in the home and foreign trade, with the number of men, in the years 1849–63:—

Employed	Vessels	Tons	Men Employed (exclusive of Masters)
In the Home Trade			
1849	9,610	719,815	44,650
1850	9,150	721,153	43,018
1851	9,266	764,461	42,954
1852	9,134	768,409	40,975
1853	8,851	774,813	42,740
1854	8,778	748,714	38,350
1855	8,590	748,543	35,476
1856	9,707	787,476	38,665
1857	10,064	860,406	43,600
1858	10,685	878,852	44,186
1859	10,409	868,289	41,922
1860	11,250	913,333	45,579
1861	11,508	935,566	46,650
1862	10,915	875,346	43,406
1863	11,133	859,592	43,815
Partly in the Home and partly in the Foreign Trade			
1849	1,917	287,490	12,977
1850	1,507	227,639	10,687
1851	1,507	247,582	8,852
1852	1,105	163,111	7,819
1853	998	164,050	7,694
1854	1,211	221,259	9,427
1855	1,281	222,676	9,328
1856	1,012	178,590	7,448
1857	1,164	182,971	8,207
1858	959	159,303	6,735
1859	907	153,891	6,431
1860	1,446	256,359	10,431
1861	1,398	244,446	9,698
1862	1,572	275,942	11,052
1863	1,810	317,960	12,524

Employed	Vessels	Tons	Men Employed (exclusive of Masters)
In the Foreign Trade			
1849	6,694	2,089,037	94,984
1850	7,235	2,188,420	97,725
1851	7,411	2,348,892	90,131
1852	7,580	2,449,364	110,769
1853	8,357	2,791,224	122,091
1854	7,418	2,759,120	114,639
1855	7,957	3,018,951	123,733
1856	8,551	3,190,011	127,805
1857	8,100	3,168,105	124,580
1858	8,427	3,287,087	126,911
1859	8,254	3,246,929	124,153
1860	7,323	3,082,047	115,582
1861	7,379	3,179,683	115,609
1862	7,605	3,322,006	119,405
1863	7,934	3,617,727	128,388
Total			
1849	18,221	3,096,342	152,611
1850	17,892	3,137,212	151,430
1851	18,184	3,360,935	141,937
1852	17,819	3,380,884	159,563
1853	18,206	3,730,087	172,525
1854	17,407	3,729,093	162,416
1855	17,828	3,990,170	168,537
1856	19,270	4,156,077	173,918
1857	19,328	4,211,482	176,387
1858	20,071	4,325,242	177,832
1859	19,570	4,269,109	172,506
1860	20,019	4,251,739	171,592
1861	20,285	4,359,693	171,957
1862	20,092	4,473,294	173,863
1863	20,877	4,795,279	184,727

The relative importance of the twelve principal ports of the United Kingdom in regard to *shipping* is shown in the following table, which gives the number of vessels and tonnage entered inwards and cleared outwards from these ports during the year 1863:—

Ports	Entered Inwards 1863		Cleared Outwards 1863	
	Vessels	Tons	Vessels	Tons
London . .	11,608	3,441,519	8,167	2,590,821
Liverpool . .	4,682	2,658,732	4,604	2,643,391
Newcastle . .	4,492	762,164	8,046	1,506,268
Hull . . .	2,959	723,901	2,238	591,301
Southampton . .	1,209	355,515	1,124	344,667
Leith . . .	1,691	291,721	588	178,845
Bristol . . .	954	242,879	263	84,910
Glasgow . .	626	188,303	928	317,128
Greenock . .	476	181,770	268	125,271
Dublin . . .	478	135,566	196	72,684
Cork . . .	375	115,634	93	28,691
Belfast . . .	318	87,401	106	36,326
Total . . .	29,868	9,185,105	26,621	8,520,303

In the year 1863, there were *built* in the United Kingdom 1,160 vessels, of 360,987 tons. Of these 881 were sailing vessels, and 279 steamers. Of the sailing vessels, 142 were built of iron, and of the steamers 240. London, Sunderland, Newcastle, Liverpool, Hull, Yarmouth, and Bristol, are the principal building ports. Ships built in London, Liverpool, Bristol, and other western ports, are in higher estimation than those built on the Tyne and the Wear, at least for those branches of trade where the best ships are required. Within the last ten years the building of iron steam ships has been immensely extended on the Tyne and the Clyde.

Money.—The metallic money of the United Kingdom consists partly of gold, and partly of silver and copper, coins. The standard of gold coin is 11 parts fine to 1 part alloy: a pound Troy of this standard gold is coined into 46 sovereigns and 2s of a sovereign, or into 46l. 14s. 6d.; so

that the sovereign contains 113·001 grains fine, and 123·274 grains standard, gold.

The standard of silver coin is 11 oz. 2 dwt. fine to 18 dwt. alloy. Since 1816, a pound of this standard silver has been coined into 66 shillings, so that each shilling contains 80·727 grains pure silver, and 87·27 grains standard. Silver coins form a mere subsidiary currency, and are legal tender to the extent only of 40s.

Copper coins are much over-valued in currency, and are legal tender to the extent only of 1s.

But by far the greater part of the considerable transactions in the United Kingdom having reference to money, are settled by the intervention of paper; that is, by the agency of the notes of the different banking companies, or of bills. In England and Ireland, no bank note can be issued for less than 5*l*., but in Scotland they may be issued so low as 1*l*.; they are all made payable to bearer on demand, either in coin or in notes of the Bank of England. The latter, with the banks of Scotland and Ireland, are the principal banking establishments. Bills vary in every possible way, in regard to amount, time, and place of payment.

Constitution.—For full details in regard to this important head, the reader is referred to the articles ENGLAND, SCOTLAND, and IRELAND. It is here sufficient to observe, that the British constitution appears to have been at its outset substantially the same with the constitution originally established in most of the other European states formed out of the ruins of the Roman empire. But England alone has had the good fortune to preserve that distribution of power among the different orders of the community which at one time prevailed among the French, Spaniards, and other continental nations. The government is mixed, being partly monarchical, partly aristocratical, and partly democratical. The executive authority is vested in the sovereign, or rather in the ministers chosen by him, while the legislative authority is shared by the sovereign and by the houses of Lords and Commons. The former of these houses consists of the heads of the church, and of nobles whose dignity is hereditary, and who are generally possessed of large fortunes. In 1865 it consisted, inc. minors, of—

Peers of the blood royal	3
Archbishops (1 Irish representative)	2
Dukes	20
Marquises	19
Earls	110
Viscounts	22
Barons	209
Scotch representative Peers	16
Irish ditto	28
English Bishops	24
Irish representative ditto	4
Total	453

The House of Commons—the predominating power in the state—consists of 658 representatives chosen by electors in the different counties and represented towns; and though the sovereign be not, his ministers are, responsible to it and to the H. of Lords for all acts done by them in their public capacity. According to the theory of the constitution, the H. of C. is chosen by and represents the wishes, feelings, and prejudices of the British people. But if by people be meant the full-grown male pop. of the U. Kingdom, this statement is altogether erroneous. By far the greater portion of the pop. has not, and never had, anything directly, and but little indirectly, to do with the choice of the members of the H. of C. Down to the passing of the Reform Act in 1832, the members for counties in England were chosen by persons having a freehold, or a life interest in

freehold property, worth 40*s*. a year; and in towns the right of election was usually in the corporation, or in the corporation and freemen. That hostility to the old system that paved the way for the Reform Act was not occasioned so much by the faulty mode in which representatives were chosen in towns entitled to send them to the H. of C., as by the decayed condition of many of these towns. The parl. boroughs had all been specified previously to the Revolution; and no provision was made in the constitution for admitting representatives for such new boroughs as might afterwards attain to importance, or for the disfranchisement of such of the parl. boroughs as might happen to fall into insignificance. Hence it came to pass that many commercial and manufacturing towns, such as Manchester, Birmingham, Paisley, and others, which had attained to vast wealth and importance after the parl. boroughs were selected, were excluded from all share in the representation, while, on the other hand, many boroughs that had become quite unimportant continued to enjoy this valuable privilege. A distinction of this sort could not be long endured; and but for the engrossing excitement occasioned by the late French war, it would, most likely, have been obviated some twenty years sooner. The Reform Act, by disfranchising a good many decayed and trifling boroughs, and enfranchising the greater ones, and giving the right of voting at the election of members to the holders of 10*l*. houses, rendered the H. of C. more democratical than formerly, and, consequently, made it correspond better with the theory of the constitution. This tendency has also been strengthened by the changes that were at the same time made in the county representation. The total number of representatives in the House of Commons was as follows, in the session of 1865:—

	Of Counties	Of Cities and Boroughs	Total
England	162	338	500
Scotland	30	23	53
Ireland	64	41	105
Total	256	402	658

The property qualification for members was not disturbed by the Reform Bill; it amounted to 600*l*. for the knights, and 300*l*. for the burgesses; but it has been abolished by 21 & 22 Vict. c. 26, of June 28, 1858. The other grounds of exclusion have remained, and have even been partially increased. No one can sit or vote in parliament who has not attained the age of twenty-one years. No excise, custom, stamp, or other revenue officer is eligible. Since 1840, the judge of the Admiralty Court is excluded from being elected; the same holds good with respect to all the later judges. The master of the rolls alone is eligible. No English or Scotch peer can be elected to the House of Commons, but an Irish peer may; finally, foreigners, even when naturalised, unless the right be conceded in express terms, as well as persons who have been convicted of treason or felony, are ineligible.

To possess the franchise in a borough, a person must occupy, as owner or tenant, a house of the clear yearly value of not less than 10*l*. The rights of the old burgesses or freemen to vote have been preserved. All persons who as burgesses or as freemen would have been entitled to vote if the Reform Bill had not been passed, are still permitted to exercise the franchise. If a person have property which would qualify him as a borough elector, he cannot, instead of becoming a borough elector, choose in respect of that property to qualify as a county elector. The qualifying estate for the county must be either—first, a freehold of inheritance of the clear yearly value of not less than

forty shillings; secondly, a freehold for life of the same value, provided it is in the actual and *bona fide* occupation of the party claiming to vote, or shall have been acquired by marriage, marriage settlement, devise, or promotion to any benefice or office. If the freeholder for life is not in actual occupation, or shall have acquired his estate otherwise than in the mode above mentioned, his freehold must be of the clear yearly value of not less than 10*l.* per annum. Before the Reform Act all who held freehold property for life of the clear yearly value of forty shillings, were entitled to vote irrespective of the manner of its acquisition, and without the necessity of occupation. Persons so qualified to vote at the time of the Reform Act are still permitted to exercise the franchise so long as they continue seized of the same freehold. Thirdly, copyhold or other property not of freehold tenure, provided the interest be for life, or for any larger estate of the clear annual value of not less than 10*l.* Fourthly, leaseholds, of the clear yearly value of 10*l.*, if the term was originally not less than sixty years, and of the clear yearly value of 50*l.* or upwards, if the term was originally not less than twenty years. Fifthly, by the occupation of any lands or tenements for which the tenant pays a yearly rent of not less than 50*l.* This latter qualification was introduced by the so-called Chandos clause. The other legal requirements for electors have continued in force. Aliens, persons under twenty-one years of age, or of unsound mind, in receipt of parochial relief, or convicted of certain offences, are incapable of voting. No one can vote who possesses a freehold conveyed to him merely for the purpose of empowering him to vote. The judges, constables, and many officers who are concerned in the collection of the revenue, are disqualified.

To preserve the independence of members of the H. of C., it was enacted, by statute 6 Anne, that, if any member shall accept any office of profit from the crown, his election shall be void, and a new writ issue, but he is eligible for re-election. This provision has been made the means of relieving a member from his trust, which he cannot resign, by his acceptance of the stewardship of the Chiltern Hundreds, a nominal office in the gift of the chancellor of the exchequer. The practice began only about the year 1750, and has since been generally acquiesced in from its convenience to all parties, though it is open to question how far the office can now be strictly deemed within the disqualifying words of the statute of Anne. In the construction of this act the resignation of office has not been held to be complete until the appointment of a successor, and the resumption of office, no appointment intervening, not to vacate a seat. Further, that a first commission in the army or navy vacates a seat; but subsequent commissions do not.

Perhaps the greatest advantage resulting from the free constitution of the H. of C. has been indirect rather than direct. The people owe to it what no other European nation has enjoyed—a really free press. According as the people increased in wealth and intelligence, and members for populous places found it necessary to conciliate public opinion, it became of importance to them to have their speeches printed and circulated over the country. Hence, though the reporting of debates be a breach of privilege, it has long been practised, with the consent of all parties. Members, in fact, speak less to the house than to the reporters, and, through them, to the country; and the censures and comments in which they are accustomed to indulge become a warrant and an apology for similar censures on the part of

journalists. It would have been subversive of every principle of justice to punish the latter for what had been proclaimed with impunity by the former. Hence it is that the nation is really indebted for the freedom of the press—that is, for the palladium and only real safeguard of rights and liberties—not so much to the voters, as to the debates carried on in the H. of C. Freedom of debate produced freedom of printing; and, consequently, gave the only effectual security for good government, and the only real check upon abuse. It is not too much to say, that the people of the United Kingdom are mainly indebted to this free press for the high place among the nations of the earth.

Next to the security afforded by the freedom of the press, *trial by jury* has been the grand bulwark of the liberties of the people of England. This institution is of very remote origin, and, like representative assemblies, was at one time introduced into several European countries. It is expressly laid down by the great charter, that '*nullus liber homo capiatur, vel imprisonetur, aut exulet, aut aliquo alio modo destruetur, nisi per legale iudicium parium suorum, vel per legem terre.*' 'The founders of the English laws,' says Blackstone, 'have with excellent forecast contrived that no man should be called to answer to the king for any capital crime, unless upon the preparatory accusation of twelve or more of his fellow subjects (the *grand jury*); and that the truth of every accusation, whether preferred in the shape of indictment, information, or appeal, should be afterwards confirmed by the unanimous suffrages of twelve of his equals and neighbours (the *petty jury*), indifferently chosen, and superior to suspicion. So that the liberties of England cannot but subsist so long as this *palladium* remains sacred and inviolate, not only from all open attacks, which none will be so hardy as to make, but also from all secret machinations, which may sap and undermine it, by introducing new and arbitrary methods of trial, by justices of the peace, commissioners of the revenue, and courts of conscience.' (Book iv. cap. 27.)

With the exception of England, trial by jury, in most other countries, was not long in being either suppressed or perverted; that is, juries were either entirely dispensed with, and the power to try prisoners entrusted to judges appointed by the different governments, or the institution was kept up in name only, its object and spirit being totally changed. Instead of jurymen being 'indifferently chosen, and free from suspicion,' which is of the very essence of jury trial, they were not unfrequently selected by the crown, or its creatures.

In England, the selection of jurymen having been always, or at least very generally, made on fair principles, jury trial has been deservedly in the highest degree popular. The charge has to be referred to twelve individuals fairly selected from among the freeholders of the neighbourhood; and unless they are *unanimously of opinion that the charge is well founded*, the accusation falls to the ground, and no farther legal proceedings can be instituted against the accused.

The signal benefits derived from jury trial in criminal cases, and in charges of treason and sedition; and the fact that, were it given up in one class of cases, it might gradually fall into disuse in others, seem to be the principal causes of its being continued as a means of trying all descriptions of civil suits. The fair presumption, however, would seem to be, that a large class of civil cases might be as well or better decided by a judge or judges appointed for that purpose.

The powers of parliament are politically omnipotent within the United Kingdom and its colonies and dependencies. It can make new laws, and enlarge, alter, or repeal those existing. Its authority extends to all ecclesiastical, temporal, civil, or military matters, and its powers to altering or changing its own constitution. It is the highest court, over which no other has jurisdiction.

The following is a table of the duration of parliaments of the United Kingdom, from the period of the Union :—

Reign	Parliament	When met	When dissolved	Existed
				Y. M. D.
George III.	1st	27 Sept. 1796	29 Jan. 1802	5 11 18
"	2nd	31 Aug. 1802	24 Oct. 1806	4 1 25
"	3rd	15 Dec. 1806	29 Apr. 1807	0 4 15
"	4th	22 June 1807	24 Sept. 1812	5 8 7
"	5th	24 Nov. 1812	10 June 1818	5 6 16
"	6th	4 Aug. 1818	29 Feb. 1820	1 6 25
George IV.	7th	23 Apr. 1820	2 June 1826	6 1 9
"	8th	14 Nov. 1826	24 July 1830	3 8 10
William IV.	9th	26 Oct. 1830	22 Apr. 1831	0 5 28
"	10th	14 June 1831	3 Dec. 1832	5 2 20
"	11th	29 Jan. 1833	30 Dec. 1834	1 1 1
"	12th	19 Feb. 1835	18 July 1837	2 5 0
Victoria	13th	14 Nov. 1837	23 June 1841	3 7 9
"	14th	11 Aug. 1841	23 July 1847	5 11 6
"	15th	21 Sept. 1847	1 July 1852	4 11 9
"	16th	4 Nov. 1852	20 Mar. 1857	4 4 16
"	17th	30 Apr. 1857	23 Apr. 1859	11 23
"	18th	31 May 1859	6 July 1865	6 1 6
"	19th	6 Feb. 1866		

The union of Ireland with England was carried into effect January 1, 1800, and the parliament which sat the same month, and which included the members from Ireland, is styled the first Imperial Parliament. The parliament which assembled January 29, 1833, is styled the first Reformed Parliament.

Religion.—The most perfect toleration is given to the professors of different religious creeds in the U. Kingdom. But, from the Revolution down to 1829, Catholics were excluded from parliament, and were incapable of holding most offices of trust and emolument. These unjust and degrading disabilities were, however, removed at the epoch referred to; and Catholics may now be elected members of the legislature, and are eligible to almost all offices. The repeal of the test and corporation acts, in 1828, removed sundry disabilities under which dissenters previously laboured.

The Established Church of England has retained the episcopal form of church government with its subordination of ranks, and is a very richly-endowed institution. Its tenets, which are partly Lutheran and partly Calvinistic, are embodied in the famous 39 Articles. The Kirk, or established church of Scotland, which is Presbyterian in form and Calvinistic in principle, is moderately well endowed. The greatest equality subsists among its members; and, on the whole, it may be said to be an essentially popular body.

The Church of England enjoys the confidence and support of the great bulk of the people of England, and such also was the case with the Church of Scotland previously to the disruption, in 1843, occasioned by the disputes relating to patronage, which led to the formation of the Free Church. But it has always been quite otherwise with the Established Church of Ireland. The latter is identical with the Church of England. Inasmuch, however, as the doctrines of the Reformation never made any considerable progress in Ireland, and as the great bulk of its inhabitants have always been Roman Catholics, the Established Church has been that of a small minority

only, and has never possessed the esteem of the people. On the contrary, they have always regarded it as a usurpation, as being originally forced upon them by the arms, and upheld by the power of England, and as being hostile alike to their religion and their secular interests. Much of the disturbance and disaffection that always prevail in Ireland may be ascribed to this unhappy constitution of the Established Church. The furnishing of religious instruction to the bulk of the people, to those who are too poor to be able easily to furnish it for themselves, has always been held to be a principal object of an established church. And it is in truth little better than a contradiction and an absurdity, to make the church of a small and opulent minority the national church, and to appropriate to its exclusive use funds that might amply provide for the religious instruction of the whole people. It is not to be supposed that the majority should tamely acquiesce in such a state of things; they cannot but regard it as an insult to their religion, and as an outrage upon their sense of justice. Common sense would suggest, either that the Catholic should be made the established religion of Ireland, or if not, that the Catholic clergy should participate, in proportion to the number of their adherents, in the endowments now exclusively enjoyed by the clergymen of the Church of England.

Revenue and Expenditure.—That portion of the national revenue that is withdrawn from the public by means of taxes, and appropriated to the use of government, amounts in round numbers to about 70,000,000*l.* sterling. The revenue increased by 20,000,000*l.*, or forty per cent., in the course of a quarter of a century. It was about 50,000,000*l.* in the year 1840, and rose to 52,000,000*l.* in 1843, and to 53,000,000*l.* in 1845. From 1845 till 1852, the revenue remained stationary; but in 1853 it had risen to 54,000,000*l.*, in 1854 to 56,000,000*l.*, in 1855 to 58,000,000*l.*, in 1856 to 60,000,000*l.*, and in 1859 to the 70,000,000*l.* where it now stands. This is a very large sum; but it must not thence be inferred that taxation is here comparatively heavy. Its pressure is not to be estimated by the actual amount of the sum taken from the people and lodged in the coffers of the treasury; but by the mode in which taxes are imposed, and the ability of the people to bear them. In some countries taxes are imposed on certain classes only; and even where this gross inequality does not exist, they are often imposed on erroneous principles, and in a way that makes their assessment and collection peculiarly difficult and injurious. But in the U. Kingdom taxation presses equally, or very nearly so, on all classes; and, without pretending to say that this system of taxation is perfect, or that it might not be materially improved, it appears, speaking generally, to be founded on sound principles, and is practically as little injurious as it could well be rendered. The influence of taxation in Great Britain has not been hostile to the increase of public opulence and private comfort. To the desire of rising in the world, the increasing pressure of taxation during times of war superadded the fear of being thrown down to a lower station; and the two together produced results not to be looked for from the unassisted agency of either. Oppressive taxes would have had an opposite effect; and instead of producing new displays of industry and economy, would have produced only despair and national impoverishment.

About two-thirds of the public revenue are derived from duties of customs and excise; and the rest from the property and income tax, the duties on stamps, the assessed taxes, and the post-office.

The subjoined statement is the official account

of the gross public income of the United Kingdom in the year ended the 30th day of June, 1864:—

PUBLIC INCOME, 1863-4.

	£	s.	d.
Customs	22,821,000	0	0
Excise	18,666,000	0	0
Stamps	9,462,000	0	0
Taxes (Land and Assessed)	3,260,000	0	0
Property Tax	8,635,000	0	0
Post Office	3,820,000	0	0
Crown Lands (Net)	305,500	0	0
MISCELLANEOUS:—			
Produce of the Sale of Old Stores and other Military and Naval extra Receipts	644,094	1	1
Amount received from the Revenues of India on account of the Effective and Non-effective Charges of British Troops serving in that country (including 369,889 <i>l.</i> 18 <i>s.</i> 7 <i>d.</i> arrears charges)	1,164,889	18	7
Allowance out of Profits of Issue received from the Bank of England, per Act 24 Vict. c.3	131,578	0	0
Miscellaneous Receipts, including Imprest and other Moneys	648,151	4	4
China War Indemnity	434,747	0	0
	3,023,460	4	0
Total Revenue	69,992,960	4	0

The public expenditure, for the last quarter of a century, has kept pace with the revenue. The great items of expenditure are the interest of the National Debt, and the maintenance of the army and navy, which together take considerably more than two-thirds of the whole sum raised by taxation, leaving less than one-third for the general government of the realm. Subjoined is the official account of the gross public expenditure of the United Kingdom in the year ended the 30th June, 1864:—

PUBLIC EXPENDITURE, 1863-4.

	£	s.	d.
Interest and Management of the Permanent Debt	23,714,810	11	7
Terminable Annuities	2,174,360	12	4
Interest of Exchequer Bonds	92,500	0	0
Interest of Exchequer Bills	316,668	5	10
Charges on Consolidated Fund:—			
Civil List	406,015	14	6
Annunities and Pensions	322,435	3	9
Salaries and Allowances	176,260	5	1
Diplomatic Salaries and Pensions	170,327	2	1
Courts of Justice	680,001	13	11
Miscellaneous Charges	181,433	15	11
Supply Services:—			
Army	14,650,154	6	1
Navy	10,909,602	7	9
Miscellaneous Civil Services	7,360,833	19	1
Salaries, &c. of Revenue Departments	4,548,883	10	1
Packet Service	679,396	18	0
Kerth and Yenikale Prize Money	85,925	0	2
Scheldt Toll Redemption	174,598	16	1
Total Expenditure	66,643,078	2	3

The following table exhibits the total amount of the actual revenue and expenditure of the United Kingdom during the 15 years 1850-64. In accordance with the system upon which the budget estimates have been framed, the financial period up to the year 1854 ended on the 5th of April, and subsequently on the last day of March.

The net amounts of revenue and expenditure are given up to the end of the financial year 1855-56, and the gross amounts after that period:—

Years ended		Revenue	Expenditure
		Net amounts	
		£	£
April 5, 1850		52,916,919	50,378,417
"	1851	53,057,053	49,882,322
"	1852	52,468,319	50,291,323
"	1853	53,243,218	50,782,476
"	1854	54,774,905	51,350,120
March 31, 1855		59,436,154	65,692,962
"	1856	65,704,491	88,428,345
		Gross amounts	
"	1857	72,334,062	75,588,667
"	1858	67,881,513	68,128,859
"	1859	65,477,284	64,665,882
"	1860	71,089,669	69,502,289
"	1861	70,283,674	72,792,059
"	1862	69,674,479	71,116,485
"	1863	70,603,561	69,302,008
"	1864	70,208,964	67,056,286

Subjoined is a statement exhibiting the gross revenue, after deducting repayments, allowances, discounts, drawbacks, and bounties in the nature of drawbacks, for Great Britain and Ireland, for each year from 1842-3 to 1861-2, calculated in periods of five years each. The receipts of the Post-office, crown lands, and of all other sources raised in Ireland towards the revenues of the United Kingdom, are included in the revenue of Ireland.

Year	Great Britain	Ireland
	£	£
1842-43	46,041,934	4,208,691
1843-44	51,350,846	4,148,487
1844-45	53,249,712	4,460,218
1845-46	51,324,667	4,708,291
1846-47	52,325,578	4,959,013
	254,092,727	22,484,700
1847-48	51,469,546	4,454,437
1848-49	52,354,995	4,571,693
1849-50	52,558,841	4,385,207
1850-51	52,404,119	4,261,561
1851-52	51,811,642	4,324,865
	260,599,150	21,947,763
1852-53	52,400,659	4,466,993
1853-54	65,406,658	5,984,527
1854-55	57,453,206	5,906,786
1855-56	62,663,203	6,719,399
1856-57	64,721,083	6,977,539
	302,644,809	30,065,544
1857-58	59,923,343	6,737,151
1858-59	56,819,977	6,438,870
1859-60	62,224,639	7,076,732
1860-61	62,493,743	6,692,148
1861-62	61,360,749	6,792,606
	302,822,451	33,667,567

A return moved for in parliament in the session of 1863, shows that in 1801 the gross revenue collected in Great Britain, excluding miscellaneous receipts, amounted to 35,218,525*l.*, and in Ireland to 2,919,217*l.* In the financial year 1861-62 the amount, as seen in the above table, was 61,360,749*l.* received of Great Britain, and 6,792,606*l.* of Ireland. Therefore, in 1801 the gross revenue received in Great Britain amounted to 3*l.* 7*s.* per head of population, and in Ireland, 1*l.* 2*s.* 2*d.*; while, o o 2

in 1861-62, the amount per head was 2*l.* 1*s.* in Great Britain, and 1*l.* 3*s.* 5*d.* in Ireland.

The subjoined table exhibits the total amount produced by each branch of the revenue, in Great Britain and Ireland respectively, after deducting repayments and drawbacks, &c., for the year ending March 31, 1863:—

CUSTOMS :	£
Great Britain	21,780,816
Ireland	2,258,077
United Kingdom	24,038,893
INLAND REVENUE : EXCISE—	
Great Britain	14,451,922
Ireland	2,722,261
United Kingdom	17,174,283
STAMPS—	
Great Britain	8,418,971
Ireland	557,768
United Kingdom	8,976,739
INCOME AND PROPERTY TAX—	
Great Britain	9,808,299
Ireland	674,289
United Kingdom	10,482,588
ASSESSED TAXES—	
Great Britain	2,038,981
LAND TAX—	
Great Britain	1,106,354
TOTAL INLAND REVENUE—	
Great Britain	35,824,526
Ireland	3,954,419
United Kingdom	39,778,945
POST OFFICE—	
Great Britain	3,423,254
Ireland	271,956
United Kingdom	3,695,210
WOODS, FORESTS, AND LAND REVENUES—	
Great Britain	482,048
MISCELLANEOUS—	
Great Britain	2,717,782
Ireland	35,779
United Kingdom	2,753,561
TOTAL—	
Great Britain	64,178,426
Ireland	6,520,231
United Kingdom	70,698,657

Subjoined is the account of the total expenditure, including charges of collection, of the United Kingdom, for the year ending March 31, 1863:—

CHARGES AND EXPENSES OF COLLECTING THE REVENUE :	£
Customs	971,187
Inland Revenue	1,474,489
Woods, Forests, and Land Revenues	152,152
Post Office	3,004,804
TOTAL	5,598,632
PUBLIC DEBT :	
Interest on Permanent Debt	23,824,367
Terminable Annuities	1,910,363
Management	201,260
Interest on Exchequer Bills	371,917
" " Bonds	123,750
TOTAL	26,231,657

CIVIL GOVERNMENT :	£
Civil List and Allowances to Royal Family	486,862
Civil Departments (including Lord Lieutenant of Ireland, and his Establishment, and Printing, Stationery, and Postage for Public Departments)	1,303,115
All other Annuities, Pensions, and Superannuation Allowances separately provided for	301,996
HEREDITARY PENSIONS formerly Paid out of the Revenue from the Excise, Post Office, and Woods and Forests, in its Progress to the Exchequer	7,380
TOTAL	1,999,353
OTHER PERMANENT AND TEMPORARY CIVIL SERVICES :	
Expense of Establishment for administering the Poor Laws	231,123
Secret Service	10,000
Foreign	30,800
Civil Government, Isle of Man	10,526
General Superintendent of Turnpike Roads in Wales, Salaries and Expenses	1,223
MISCELLANEOUS CHARGES	21,645
TOTAL	305,317
JUSTICE :	
Courts of Justice	1,063,068
Police and Criminal Prosecutions	1,679,979
Prisons and Convict Establishments	822,473
TOTAL	3,565,520
DIPLOMATIC :	
Ministers abroad, Salaries and Pensions	173,226
Consuls abroad, Salaries and Pensions (including Services in China, &c.)	248,470
Extraordinary Expenses and Outfits	89,000
TOTAL	510,706
FORCES :	
Fortifications	1,050,000
Army, including Ordnance	16,264,790
Navy	11,370,568
TOTAL	28,685,378
PUBLIC WORKS :	844,223
EDUCATION :	
Great Britain : Public Education	782,119
" " Grants to Universities	27,563
Ireland : Public Education	236,281
" " Grants to Universities and Colleges, &c.	58,430
Schools of Design, Public Museums, &c.	1,204,393
TOTAL	1,431,612
COLONIAL CHARGES :	
Certain Civil Establishments and Salaries, &c.	213,993
MISCELLANEOUS	1,077,679
TOTAL EXPENDITURE	70,464,069

The National Debt of Great Britain, the interest on which consumes more than one-third of the revenues of the United Kingdom, dates from the time of the Revolution, and from that period has been increasing in the following proportions:—

	Principal funded and unfunded	Interest and Management
	£	£
Debt at the revolution, in 1689	664,263	39,855
Excess of debt contracted during the reign of William III. above debt paid off.	15,730,439	1,271,087
Debt at the accession of Queen Anne, in 1702	16,394,702	1,310,942
Debt contracted during Queen Anne's reign	37,750,661	2,040,416
Debt at the accession of George I., in 1714	54,145,363	3,351,358
Debt paid off during the reign of George I., above debt contracted	2,053,125	1,133,807
Debt at the accession of George II., in 1727	52,092,238	2,217,551
Debt contracted from the accession of George II. till the peace of Paris in 1763, three years after the accession of George III.	86,778,192	2,634,500
Debt in 1763	138,865,430	4,852,051
Paid during peace, from 1763 to 1775	10,281,795	380,480
Debt at the commencement of the American war, in 1775	128,583,635	4,471,571
Debt contracted during the American war	121,267,993	4,980,201
Debt at the conclusion of the American war, in 1784	249,851,628	9,451,772
Paid during peace, from 1784 to 1793	10,501,380	243,277
Debt at the commencement of the French war, in 1793	239,350,148	9,208,495
Debt contracted during the French war	601,500,243	22,329,696
Total funded and unfunded debt on the 1st of Feb., 1817, when the English and Irish exchequers were consolidated	840,850,491	32,038,191
Debt cancelled from the 1st of Feb., 1817, to 5th of January, 1836	53,211,675	2,894,674
Debt, and charge thereon 5th of January, 1836	787,638,816	29,143,517

The state of the National Debt for the 15 years, from 1850 to 1864, has been as follows:—

Financial Years ended	Description of Debt		
	Funded	Unfunded	Total
	£	£	£
April 5, 1850	773,168,316	17,758,700	790,927,016
" 1851	769,272,562	17,756,600	787,029,162
" 1852	765,126,582	17,742,800	782,869,382
" 1853	761,622,704	17,742,500	779,365,204
" 1854	755,311,701	16,024,100	771,335,801
March 31, 1855	752,054,119	23,151,400	775,215,519
" 1856	775,730,994	28,182,700	803,913,694
" 1857	780,119,722	27,989,000	808,108,722
" 1858	779,225,495	25,911,000	805,136,995
" 1859	786,801,154	18,277,400	805,078,554
" 1860	785,962,000	16,228,800	802,190,800
" 1861	785,118,609	16,689,000	801,808,609
" 1862	784,252,238	16,517,900	800,770,238
" 1863	783,306,739	16,495,400	799,802,139
" 1864	777,429,224	13,136,000	790,565,224

In 1864 the sum of 5,000,000*l.* of the unredeemed funded debt was cancelled, and a terminable annuity created in lieu thereof, under the 26th Vict. cap. 25, sect. 2.

Under a previous Act, 48 Geo. III., cap. 142, the commissioners for the reduction of the National Debt were empowered to convert consols into life annuities. The commissioners have to present annual accounts to parliament, in respect to all transactions in connection with the public debt.

The balances in the exchequer at the end of each financial period, during the 16 years from 1849 to 1864, were as follows:—

Financial Years ended	Amount
	£
April 5, 1849	8,105,562
" 1850	9,748,540
" 1851	9,245,676
" 1852	8,381,637
" 1853	8,841,822
" 1854	4,485,230
March 31, 1855	3,949,775
" 1856	5,600,621
" 1857	8,668,371
" 1858	6,657,802
" 1859	7,789,083
" 1860	7,972,864
" 1861	6,672,132
" 1862	5,288,676
" 1863	7,263,839
" 1864	7,352,548

In the financial year ending with March 1862, the amount of property and profits assessed to income tax in Great Britain was 301,380,730*l.*, being 13*l.* 0*s.* 7½*d.* per head of the population, taking this at the same number enumerated at the census in April 1861; in Ireland, 21,638,975*l.*, or 3*l.* 14*s.* 7½*d.* per head. The gross amount of the public revenue, excluding miscellaneous receipts, was in Great Britain 2*l.* 13*s.* per head of the population, or 4*s.* 0½*d.* in the pound upon the income assessed to income tax; in Ireland, 1*l.* 3*s.* 5½*d.* per head of the population, or 6*s.* 3½*d.* in the pound upon the income assessed to income tax.

Army and Navy.—The formation of a standing army being long regarded with extreme jealousy and aversion, its establishment in England is of comparatively modern origin, not dating farther back than the reign of Charles II. It is annually provided for by a vote of the H. of C.; so that it is always in the power of the latter at any time to reduce, or, if it see cause, totally to disband, the army. But the old jealousies of which it was the object no longer exist; and there can be no doubt that the establishment of a properly trained regular military force is indispensable to guarantee the national independence from hostile attack. The British army has been employed in every quarter of the world, and has everywhere exhibited all those qualities that go to form a perfect military force—the most unflinching courage, combined with the greatest patience and fortitude under privations and hardships, and the constant observance of the strictest discipline.

The British army is recruited by means of voluntary enlistment only; and it is to be hoped that all attempts to introduce the conscription into this country may meet with no better success in future than that which has hitherto attended them. If soldiers could not be procured by other means, necessity would form a valid excuse for the introduction of a conscription. But no such necessity has ever existed. No country that chooses to pay fair wages to its troops, and which treats them as men employed in the service of their country should be treated, can ever want for

a supply of voluntary recruits. The annual Mutiny Act, and the Articles of War issued by the crown, and subjoined to the Mutiny Act, constitute the code of martial law in force in the British army.

According to the army estimates laid before the H. of C. in the session of 1864, the total force of the United Kingdom, during the year 1864-65, consisted of 146,766 men. This force was composed of the following regiments, depôts, and training establishments:—

Year 1864-65	Officers	Non-commissioned Officers, Trumpeters, and Drummers	Rank and File
Officers on the General Staff . . .	108	—	—
REGIMENTS:—			
Royal Horse Artillery . . .	86	182	1,720
Life Guards and Horse Guards . . .	99	192	1,029
Cavalry of the Line . . .	578	1,001	8,492
Royal Artillery . . .	805	1,715	14,724
Riding Establishment . . .	4	13	205
Royal Engineers . . .	401	874	3,918
Military Train . . .	107	200	1,534
Foot Guards . . .	287	446	5,600
Infantry of the Line . . .	3,849	7,156	71,750
Army Hospital Corps . . .	1	220	759
Commissariat Staff Corps . . .	1	112	488
West India Regiments . . .	240	389	3,760
Colonial Corps . . .	185	303	3,582
Total . . .	6,613	12,203	117,491
DEPÔTS OF INDIAN REGIMENTS:—			
Royal Horse Artillery . . .	8	85	404
Cavalry . . .	44	143	627
Royal Artillery . . .	23	71	1,341
Infantry . . .	381	770	5,500
Total . . .	456	1,019	7,872
RECRUITING AND OTHER ESTABLISHMENTS:—			
Cavalry depôts . . .	18	23	—
Infantry depôts . . .	180	176	—
Recruiting Establishments . . .	86	84	—
Instruction in Gunnery . . .	—	30	48
„ Engineering . . .	—	15	—
„ Musketry . . .	27	55	86
Total . . .	281	353	86
TRAINING SCHOOLS:—			
Cadet Company, Woolwich . . .	12	21	12
Royal Military College, Sandhurst . . .	14	85	—
Regimental Schools . . .	—	215	—
Total . . .	26	271	12
RECAPITULATION:—			
Total General Staff . . .	108	—	—
„ Regiments . . .	6,613	12,203	117,491
„ Depôts of Indian Regiments . . .	456	1,019	7,872
„ Recruiting and other Establishments . . .	261	353	86
„ Training Schools . . .	26	271	12
Total . . .	7,459	13,846	125,461

Subjoined is an account, taken from official documents, of the regular troops (exclusive of the ordnance) at home, in the colonies, and in foreign

countries, in 1792, 1815, and 1858. The statement may serve as a comparative table in regard to the actual strength of the army:—

	1792	1815	1858
At Home and in the Colonies.			
Household Cavalry . . .	779	1,504	1,306
Foot Guards . . .	3,766	9,612	5,280
Cavalry of the Line . . .	3,409	16,477	7,389
Infantry of the Line . . .	36,598	138,701	78,581
Garrison Battalion . . .	—	1,823	—
Veteran Battalions . . .	—	3,922	—
West India Regiments . . .	—	8,798	3,417
Colonial Corps . . .	—	7,147	5,574
Fencibles . . .	—	3,268	—
Foreign Corps . . .	—	21,314	—
Augmentation in progress . . .	—	9,148	—
	46,552	220,714	101,723
India.			
Cavalry of the Line . . .	512	5,555	3,165
Infantry of the Line . . .	10,188	24,045	37,144
Totals . . .	57,252	250,314	132,032

The British forces in India, exclusive of depôts in this country, comprise the following troops, granted by parliament for the year 1864-65:—

	Officers	Non-commissioned Officers, Trumpeters, and Drummers	Rank and File
Royal Horse Artillery . . .	202	244	2,680
Cavalry of the Line . . .	352	574	5,082
Royal Artillery . . .	698	874	9,210
Infantry of the Line . . .	2,200	3,825	46,750
Total . . .	3,445	5,517	63,722

The troops here enumerated do not constitute the whole army of the United Kingdom; but the army estimates for 1864-65, as well as the preceding years, contain votes of money for five classes of auxiliary forces—namely, the militia, the yeomanry, the volunteers, the enrolled pensioners, and the army reserve force. The total cost of the above forces amounted to 14,844,888*l.*, which sum includes the charge for *non-effective* services, that is, for half-pay and pensions to officers and men, which amounted during the year to 2,106,157*l.*

The pay and other emoluments of the officers and men depend partly on the length of their service and partly on the department of the service to which they belong. In the household troops, the pay of privates varies from 1*s.* 9*d.* to 2*s.* 0*d.* a day; in the cavalry of the line it is 1*s.* 4*d.*; in the foot guards, 1*s.* 2*d.*; and in the infantry of the line, 1*s.* 1*d.* Soldiers, however, are not entitled to receive the whole of this sum in money; when at home and in barracks, they are supplied with certain rations, for which 6*d.* a day is to be deducted from their pay. The greater part of their clothes and accoutrements are furnished at the public expense; but certain deductions are made from their pay on that account. Pensions are granted for casualties in action, and to soldiers discharged after certain periods of service.

The volunteer force, which, though of old date, has been newly reconstructed, forms a very important body for the defence of the kingdom. The total force enrolled in the whole of Great Britain was 119,283 in April 1860, 161,400 in 1861, and 162,681 in 1864; this last number being composed of 662 light horse, 23,363 artillery, 2,904 engineers, 656 mounted rifles, and 134,096 rifle volunteers. There is no volunteer force in Ireland.

From a return made to the House of Commons at the end of the session of 1864, it appears that, in April 1864, there were 109,760 non-commissioned officers and men in Her Majesty's land forces who declared themselves Episcopalians, 20,798 Presbyterians, 5,290 other Protestants, and 58,508 Roman Catholics. The number of Episcopalians is rather decreasing. The Roman Catholics in the artillery increase; in 1861 they were but 3,344, but by April 1864 they had increased to 8,161. Out of the 58,508 Roman Catholics in the army, 46,348 were in the infantry; of the 135,848 Protestants, only 82,518. In the royal marines there were in the first quarter of 1864, 12,398 Episcopalians, 416 Presbyterians, 2,379 other Protestants, and 1,448 Roman Catholics.

In round numbers, every soldier of the British army costs the country 100*l.* per annum. But this sum includes all extraneous military expenses, as well as the disbursement for the non-effective services.

The navy of the United Kingdom is a perpetual establishment, and the statutes and orders by which it is governed and its discipline maintained—unlike the military laws, which the sovereign has absolute power to frame under the authority of an Act of Parliament—have been permanently established and defined with great precision by the legislature. The distinction also prevails in the mode of voting the charge for these two forces. For the army, the first vote sanctions the *number* of men to be maintained; the second, the charge for their pay and maintenance. For the navy, no vote is taken for the number of men; the first vote is for the *wages* of the stated number of men and boys to be maintained; and though the result may be the same, this distinction exists both in practice and principle.

The navy is governed by the lord high admiral for the time being, or by a body of commissioners called the Board of Admiralty, of which the power is, in fact, vested in the first lord. This board has the superintendence of all naval matters; all appointments of commissioned officers, and warrant officers with some exceptions; promotion, honours, pensions; and the general control of everything relating to the discipline of the fleet.

Those who enter the service with a view to obtain commissions, begin as volunteers, and then serve as midshipmen; after six years in the latter character, and attaining the age of nineteen, they *pass* an examination for the rank of lieutenant—the lowest commissioned officer. But the attainment of a commission, and subsequent promotion, are entirely at the disposal of the admiralty. Certain advantages are enjoyed by those who have completed their education as students at the naval college of Portsmouth. The discipline of the navy is maintained by articles embodied in acts of parliament. Sailors enter the navy by voluntary enlistment; but in cases of emergency they may be obtained by impressment. The power of the government to impress seamen for the fleet is of such ancient date that it is said to be part of the common law. It has no direct statutory sanction, though the preamble of the stat. 2 Rich. II. c. 4, by its recital of the arrest and retention of mariners for the king's service, shows that it was at that time a well-known practice, and its existence has also been incidentally recognised by several later statutes. The continuance of the practice has been warranted by the necessities of the service, to enable the admiralty to man a fleet with speed on an emergency. The authority of parliament in the control of the navy was first exercised in 1661, by an enactment of 13 Charles II., passed to regulate the government of the fleet.

This act was repealed by the 22 Geo. II. c. 23, which was explained and amended by the 19 Geo. III. c. 17. These two latter statutes contain the articles of war and the rules for holding naval courts martial, and form the permanent code under which the navy is governed. The laws relating to the pay of the navy were consolidated and amended by stat. 11 Geo. IV. c. 20.

For a number of years the navy of the U. Kingdom has cost, on the average, about 10,000,000*l.* per annum. The parliamentary grant for the naval force, for the financial year 1864–5, amounted to 10,118,380*l.*, divided as follows:—

Wages to Seamen and Marines . . .	£2,874,647
Victuals and Clothing for ditto . . .	1,304,119
Admiralty Office . . .	168,605
Coast Guard Service, Royal Naval Coast Volunteers, and Royal Naval Reserve . . .	300,718
Scientific Branch . . .	71,276
Her Majesty's Establishment at Home . . .	192,574
Her Majesty's Establishments Abroad . . .	37,666
Wages to Artificers, &c., employed in Her Majesty's Establishments at Home . . .	1,275,316
Wages to Artificers, &c., employed in Her Majesty's Establishments Abroad . . .	69,295
Naval Stores for the Building, Repair, and Outfit of the Fleet; Steam Machinery, and Ships built by contract:—	
Section I. Storekeeper-General of the Navy . . .	1,164,100
Section II. Controller of the Navy . . .	662,212
New Works, Improvements, and Repairs in the Yards, &c. . . .	449,298
Medicines and Medical Stores . . .	64,350
Miscellaneous Services . . .	102,320

Total for the Effective Service . . .	£8,736,406
Half-pay, Reserved Half-pay, and Retired Pay to Officers of the Navy and Royal Marines . . .	697,790
Military Pensions and Allowances . . .	490,201
Civil Pensions and Allowances . . .	193,983

Total for the Naval Service . . . £10,118,380

The navy of Great Britain, on January 1, 1865, numbered 975 ships of all classes, including 'non-effective sailing ships.' The list comprised 72 vessels ranking as line-of-battle ships, mounting from 74 to 131 guns each; 39 of from 50 guns to 72 guns each; 69 frigates of from 24 guns to 46 guns each, most of which were of a tonnage and horse-power equal to a line-of-battle ship; 30 screw corvettes, each mounting 21 guns; and upwards of 600 vessels of all classes mounting less than 20 guns. In addition to the above, there was a fleet of 185 gunboats, each mounting two heavy Armstrong guns, and of 60 horse-power, besides a numerous squadron of iron and wooden mortar-vessels, built during the Russian war, and laid up at Chatham. The number of line-of-battle and other steamers composing the squadron on the North American and West Indian station was 29. The squadron in the Mediterranean numbered 28 vessels of all classes. The East India and China squadrons consisted of 61 vessels, including gunboats. The number of ships stationed on the west coast of Africa, for the suppression of the slave trade, was 22. The Pacific squadron numbered 13 ships, and that on the south-east coast of America 11 ships. There were 8 line-of-battle and other ships stationed at the Cape of Good Hope, and 7 ships were attached to the Australian station. The Channel squadron consisted of 5 ships, all iron-plated.

The iron-plated or armour-clad fleet, built or building, consisted, according to a return ordered by the House of Commons on May 3, 1864, of 27 ships and 7 floating batteries.

Colonies and Dependencies.—The colonies and dependencies of Great Britain embrace about one-third of the surface of the globe, and nearly a

fourth of its population. The area of these possessions covers 3,319,649 square miles, or nearly thirty times the extent of the United Kingdom. Exclusive of India, by far the most important of all the possessions of Great Britain, the colonies may be divided into four principal groups, namely, those in North America; in Central America, or the West Indies; in Australasia; and in Africa. At present, the North American group takes precedence over the others in regard to population; but there is little doubt that, in the course of another generation, or perhaps two, its growth will be outstripped by that of the much younger colonies of Australasia. Official returns, calculated for the year 1862, state the area and population of the British possessions as follows:—

Possessions	Area	Population
	Sq. miles	Number
INDIA	933,722	135,634,244
NORTH AMERICA		
Canada	242,482	2,507,657
New Brunswick	27,037	193,800
Nova Scotia	16,620	277,117
Prince Edward Island	2,173	80,857
Newfoundland	35,850	122,638
British Columbia	200,000	No return
Total of North American Colonies	523,162	3,182,069
Bermuda	20	10,982
Honduras	17,000	25,635
WEST INDIES :		
Bahamas	3,522	27,619
Turks Islands	—	4,372
Jamaica	6,400	377,433
Virgin Islands	94	6,051
St. Christopher	68	20,741
Nevis	20	9,822
Antigua	108	37,125
Montserrat	47	7,053
Dominica	291	25,065
St. Lucia	300	27,141
St. Vincent	181	31,755
Barbadoes	166	152,727
Grenada	133	81,900
Tobago	87	15,410
Trinidad	2,012	84,438
British Guiana	76,000	127,695
Total for West Indies	89,389	986,347
Falkland Islands	13,000	566
AUSTRALASIA :		
New South Wales	478,861	348,546
Victoria	86,944	540,322
South Australia	300,000	126,830
Western Australia	45,000	15,593
Tasmania	22,629	89,977
New Zealand	95,000	139,968
Queensland	559,000	30,115
Total for Australasia	1,687,434	1,291,851
Hongkong	29	94,917
Labuan	50	2,442
Ceylon	24,700	1,919,487
Mauritius	708	322,517
Natal	18,000	157,583
Cape of Good Hope	104,931	267,096
St. Helena	47	6,860
Gold Coast	6,000	151,346
Sierra Leone	300	41,624
Gambia	—	6,989
Gibraltar	13	17,647
Malta	115	147,683
General total	3,319,649	144,499,761

The growth of the British colonial empire—result of three centuries—of peaceful and warlike enterprise—is illustrated in the subjoined table:—

Colonies and Dependencies	Date and Mode of Acquisition
EUROPE :	
Gibraltar	Capture . . . 1704
Heligoland	Cession . . . 1814
Malta and Goso	Capture . . . 1800
ASIA :	
Ceylon	Capitulation . . 1796
Bengal	Settlement and conquest at various periods from 1625 to 1849
Bombay	
Madras	
N. W. Provinces	
Punjab	Treaty . . . 1843
Hongkong	Cession . . . 1846
Labuan	
AFRICA :	
Cape of Good Hope	Capitulation . . 1806
Gambia	Settlement . . 1631
Gold Coast	" . . . 1661
Natal	" . . . 1828
St. Helena	" . . . 1651
Sierra Leone	" . . . 1787
Mauritius	Capitulation . . 1810
AMERICA :	
Bermuda	Settlement . . 1609
British Columbia	" . . . 1759
Canada, Lower	Capitulation and Cession . . { 1763
Canada, Upper	" . . . 1763
New Brunswick	" . . . 1763
Newfoundland	Settlement . . 1497
Nova Scotia	" . . . 1610
Prince Edward Island	Capitulation . . 1803
Guiana, British	Cession . . . 1837
Falkland Islands	
WEST INDIES :	
Antigua	Settlement . . 1632
Bahamas	" . . . 1629
Barbadoes	" . . . 1605
Dominica	Cession . . . 1763
Grenada	" . . . 1763
Honduras	" . . . 1670
Jamaica	Capitulation . . 1655
Montserrat	Settlement . . 1632
Nevis	" . . . 1628
St. Kitts	" . . . 1623, 1640
St. Lucia	Capitulation . . 1803
St. Vincent	Cession . . . 1763
Tobago	" . . . 1763
Tortola, &c.	Settlement . . 1665
Trinidad	Capitulation . . 1797
Turks Island	Settlement . . 1629
AUSTRALASIA :	
Australia, South	Settlement . . 1836
Australia, West	" . . . 1829
New South Wales	" . . . 1787
Queensland	" . . . 1859
New Zealand	" . . . 1839
Tasmania	" . . . 1805
Victoria	" . . . 1836

The total exports of British and Irish produce and manufactures to the colonies and dependencies of the kingdom were of the value of 42,245,377*l.* in 1861, of 41,895,849*l.* in 1862, and of 50,919,654*l.* in 1863. (For further details see the names of the various colonies and dependencies.)

History.—A sketch will be found in the article ENGLAND of the principal events in the history of that most important part of the empire. The leading epochs in the history of the latter are:—

I. The invasion and establishment of the English power in Ireland during the reign of Henry II.

II. The union of the crowns of England and Scotland in 1604, on the accession of James, king of Scotland, to the throne of England, vacant by the death of Elizabeth.

III. The great civil war in the reign of Charles I., followed by the execution of that monarch in 1649; the establishment of the Commonwealth; and the restoration of Charles II. in 1660.

IV. The Revolution of 1688, which expelled the family of Stuart from the throne; defined and firmly established the principles of the constitution; and introduced a liberal, tolerant, and

really responsible system of government, under William III., Prince of Orange.

V. The establishment of the legislative union of England and Scotland, 1707.

VI. The accession of the House of Hanover, 1714.

VII. The American war, 1776-1784.

VIII. The war with revolutionary France, 1798-1815.

IX. The legislative union of Ireland with England and Scotland, 1799.

X. The passing of the Reform Act, 1832.

XI. The abolition of slavery in the colonies, 1834.

XII. The transfer of the administration of India to the Imperial government, 1858.

BRITTANY, or BRETAGNE, one of the most considerable of the ancient provinces of France, occupying the peninsula of that name on the Atlantic. It is now distributed among the depts. of Loire Inférieure, Ile-et-Vilaine, Finisterre, Morbihan, and Côtes-du-Nord.

BRIVE, or BRIVE-LA-GAILLARDE, a town of France, dép. Corrèze, cap. arrond., in a beautiful and fertile plain, on the Corrèze, 15 m. SW. Tulle. Pop. 9,854 in 1861. The town is well built, the houses being all of hewn stone, and covered with slates. It has a considerable trade in wine, chestnuts, and cattle, and is the centre of the trade in truffles and *volailles truffées*. The famous Cardinal Dubois was a native of Brive.

BRIXHAM, a sea-port and par. of England, co. Devon, hund. Haytor, 186 m. WSW. London by road, and 225 m. by Great Western railway. Pop. of town 4,390 in 1861. Area of par. 5,210 acres. Pop. of par. 5,984 in 1861. The town is built in a narrow ravine opening towards the sea, and on the cliffs impending over it on either side, and is divided into the upper and lower towns. In the latter the buildings are much crowded, in narrow irregular streets and alleys; but the upper town contains many good houses, as does also the immediate neighbourhood, which is remarkably picturesque. The church in the upper town is an ancient structure, with some interesting monuments; in the lower town is a chapel of ease, which has 300 free sittings, the living is a vicarage in the gift of the crown. It has also a Baptist and a Wesleyan chapel, and a national school, incorporated with an endowed one founded 1684, which educates about 400 boys and girls. There is a pier harbour at the end of the lower town, consisting of an inner and outer basin, which communicate with each other, and are safe and commodious. The spring tide rises about 24 ft. at the pier-head. The principal trade of the place is connected with the Torbay fishery, in which about 120 vessels, of 20 to 45 tons, and 70 smaller boats, are engaged; there are also upwards of 120 vessels of 60 to 120 tons, belonging to the place, chiefly engaged in the coasting trade of the Channel. There are extensive marble quarries in the neighbourhood. The most remarkable historical event connected with this place, or with Torbay, is the landing of William III. at its pier, on the 5th of November, 1688.

BROADSTAIRS, a small sea-port and watering-place of England, co. Kent, E. coast, Isle of Thanet, half-way between the N. Foreland and Ramsgate, 69 m. E. by S. London by road, and 77 m. by London, Chatham, and Dover railway. Pop. of eccl. distr. 1,378 in 1861. There are several good lodging-houses, warm baths, two public libraries, good hotels, assembly-room, and an episcopal chapel, built in 1828. There is a wooden pier (formed in the reign of Henry VIII.), which is accessible for small vessels.

BRODY, a town of the Austrian States, NE. part of Galicia, circ. Zloczow, near the confines of

Russia, 52 m. E. by N. Lemberg; lat. 50° 7' N., long. 25° 18' E. Pop. 18,743 in 1857. Nearly one-half the inhabitants are Jews. The town is situated in a marshy plain; and the houses being mostly of wood, and the streets unpaved and filthy, it is well entitled to the name it bears—*brody* meaning a dirty place. But, notwithstanding its unpromising appearance, it enjoys a very considerable trade. In 1779 it acquired the privilege of a free commercial town; that is, a town into which commodities may be imported, and from which they may be exported free of duty. This franchise has rendered it an important emporium; and its fairs are attended by dealers from the Ukraine and Odessa, Moldavia and Wallachia, as well as the contiguous Austrian and Russian provinces. The principal articles brought from the S. are cattle, especially horses, with hides, tallow, and wax, which are exchanged for colonial produce, manufactured goods, hardware, particularly scythes, furs, and jewellery. There is a regular exchange with Odessa. The greater part of this important trade is in the hands of Jewish merchants settled at Brody, of whom many are very opulent. The annual commerce of the place is estimated of the value of 30,000,000 florins, or 3,000,000*l*. Brody is the seat of a mercantile tribunal; has a Catholic and three Greek churches; one large and two or three smaller synagogues; a convent and hospital of the Sisters of Charity; grammar and commercial schools, with peculiar schools for Christians and Jews; a theatre, in which, during the fairs, plays are alternately represented in the German and Polish languages; and a Jewish hospital. The town is on the estate of Count Potocki, who derives a princely revenue from it, and has a large castle within its precincts.

BROEK, a village of Holland, 6 m. NE. Amsterdam. Pop. 1,466 in 1861. The village is celebrated for the wealth of its inhab., but more for the extreme cleanliness of its houses and streets, the attention to which has been carried to an absurd and ridiculous excess. The entire pop. consists of retired merchants and their families, who amuse themselves in killing flies, and keeping their dwellings free from every speck of dust.

BROMBERG, a town of Prussia, prov. Posen, cap. circ. same name, on the Braa, 6 m. from its confluence with the Vistula, at the junction of the railways from Berlin to Warsaw, and from Berlin to Königsberg. Pop. 22,474 in 1861; excl. 1,970 military. The town is one of the most thriving of eastern Prussia; it more than doubled its population in the 20 years 1841-61. The canal joining the Vistula with the Netz, an affluent of the Oder, runs between this town and Nakel on the Netz. It has a court of appeal for the circ., a gymnasium, and other literary establishments, several distilleries and breweries, chicory and tobacco works, and a considerable and increasing trade.

BROMLEY, a par. and town of England, co. Kent, lath Sutton-at-Hone, hund. Bromley and Beckenham, 10 m. SE. London by road, and 12 m. by South Eastern railway. Pop. of parish 5,505 in 1861; area 4,630 acres. The town is on the N. bank of the Ravensbourne, and chiefly consists of one street of neat respectable houses, extending for some distance along the line of road from the metropolis to Tunbridge. The church is a spacious structure, with an embattled tower; the Independents and Wesleyans have each a chapel; a national school for both sexes is supported by subscr.; there is an almshouse for old people, rent free; a charitable estab., called Bromley College, founded in 1666, and enlarged and endowed by many subsequent benefactors, supports 40 clergymen's widows, who each receives 38*l*. a year, with

coals and candles: the edifice encloses two quadrangular areas, and has a chapel: the charity is under the direction of 14 trustees. There is a weekly market on Thursday, a monthly one for cattle, every third Thursday, and ann. fairs Feb. 14, Aug. 4, chiefly for live stock. It is the central town of a poor law union of 16 pars.; its own rates average 1,200*l*. The inhab. are chiefly engaged in agriculture. From the 8th century the manor has vested, with little interruption, in the bishops of Rochester. The present palace was rebuilt on an ancient site in 1777; it is a plain brick building, on an eminence $\frac{1}{2}$ m. from the town; an ancient spring in its gardens has medicinal properties similar to those of Tunbridge: after being neglected two or three centuries, it was reopened in 1756, and continues to be much resorted to. Its weekly market was granted to the town in 1477.

BROMSGROVE, a par. and town of England, co. Worcester, hund. Half-shire, 108 m. NW. London by road, and 127 $\frac{1}{2}$ m. by London and North Western railway *via* Birmingham. Pop. of town, 5,262, and of parish 10,822 in 1861. The town is situated on the W. bank of the Salwarp, in a fertile and well wooded vale, and chiefly consists of one spacious street about a mile in length. Its church, on a gentle rise, has a tower and spire, together 189 ft. in height, and considered the finest in the co. There are three dissenting chapels; a free grammar-school, founded by Edward VI. (in which twelve boys are clothed and educated, with seven scholarships, and six fellowships in Worcester College, Oxford); and a town-hall, with a market-place under it. The weekly market is on Tuesday; two annual fairs are held, June 24 and Oct. 1. Nail-making is the chief business of the place; there is also a large button manufactory. In the adjoining parish of Stoke Prior there are large salt and alkali-works, in which some of the inhab. of Bromsgrove are employed: the linen manufacture was formerly carried on, but is now extinct. The line of the Birmingham and Gloucester railway passes near the town. It is the central town of a poor law union of nine parishes; its own rates average 3,000*l*.: it has five guardians. A court of requests for debts under 40*s*. is held in the town every third Wednesday. Bromsgrove Lickey, a lofty range, in which the Salwarp, Rea, and some other streams, have their source, lies on the N. of the town.

BROMYARD, a par. and town of England, co. Hereford, hund. Broxash, 110 m. NW. London. Pop. of town 1,385, and of parish 2,995 in 1861; area, 9,310 acres. The town, situated near the Frome, in an orchard district, consists of several irregular streets, which are paved and lighted; many of its houses are of wood. There is a spacious church, in the Norman style; an Independent chapel; a free grammar-school founded by Elizabeth; a national school, for 120 children; and almshouses for seven old women. The weekly market is Monday; corn, cheese, and butter are the chief articles. Petty sessions for the hund. are held in the town. The par. comprises three townships and one chapelry.

BRONTE, or BRONTI, a town of Sicily, Val di Catania, cap. cant., near the Giarretta at the W. base of Mount *Ætna*, 22 m. NNW. Catania. Pop. 11,629 in 1861. The town has several churches and convents; is healthy; has manufactures of woollens and paper; and the adjacent territory produces corn, wine, silk, pestachio nuts, and almonds. Lord Nelson was created Duke of Bronte in 1799, with an income of 6,000 *once* a year.

BROOKLYN, a suburb of New York, on Long Island. See New York.

BROSELEY, a market town and par. of Eng-

land, co. Salop, hund. Wenlock, 127 m. NW. London, on the Severn, by which it is separated from Madeley. Area of par. 1,550 acres; pop. 4,724 in 1861. The town consists principally of one long street, with smaller ones branching off to the different collieries and other works. It has a parish church, and chapels for different denominations of dissenters; and there is a chapel of ease at Jackfield, within the parish. It is within the jurisdiction of the bor. of Wenlock. Courts leet for the manor are held in the town-hall in April and October, at the latter of which four constables are appointed; and a court of requests, for the recovery of small debts, is held generally every alternate Wednesday. There are here extensive coal and iron mines, with large iron-foundries; and it is celebrated for its extensive manufacture of tobacco-pipes and garden-pots. A burning spring or well was discovered here in 1711, which disappeared on the sinking of a coal mine in 1755. Owing to the depression of the iron trade, the town declined considerably previously to the census of 1831, there having been a falling off in the population, since 1811, of nearly an eighth part: the pop. at the latter period being 4,580; but in 1841 it had nearly recovered its old level, and in 1861 showed a slight increase.

BROUAGE, a town and sea-port of France, dép. Charente Inférieure, on the strait dividing the Island of Oleron from the mainland. 8 m. SSW. Rochefort by railway. Pop. 601 in 1861. Its port admits only of vessels of small burden. Around the town are extensive salt marshes, from which salt is obtained in great quantities, and of an excellent quality. To facilitate its shipment, the marshes are traversed by a canal running from the Charente above Rochefort to a little below Bronage.

BRUGES, a city of Belgium, cap. W. Flanders, and of an arrond. and 5 cantons, in a vast level plain of sandy soil at the junction of the canals from Ghent, Ostend, and L'Ecluse, and at the railway from Ostend to Antwerp: 7 m. from the N. Sea, 12 m. E. Ostend, 24 m. WNW. Ghent, and 60 m. NW. Brussels. Bruges is the seat of an episcopal see under the archbishop of Mechlin; the seat of a court of assize, of a high court of justice, and of a court of commerce. Pop. in 1830, 42,198; in 1838, 44,374; and 48,678 in 1856. This last enumeration showed a decrease of 635 in the preceding decennial period, the pop. of 1846 having been 49,308. The city has a circ. of nearly $\frac{1}{2}$ m., and is entered by six gates. It has six large squares, in which are held weekly markets and annual fairs, and above 200 streets and lanes; some are wide and handsome, and all are generally clean. Many large and noble ancient mansions, and spacious public edifices, present their painted gables to the streets, and afford interesting specimens of the ornamental Gothic architecture of the middle ages, reminding the spectator of the grandeur and opulence of Bruges in the days of chivalry, when its gorgeous halls and courts were scenes of regal pomp and pageantry. Bruges, in common with all the towns of W. Flanders, is destitute of spring water, so that the inhabitants are obliged, as were their ancestors in the time of Pliny, to have recourse to supplies from the clouds. For this purpose every house is provided with a cistern for collecting rain from its roof; and that which gathers in the ditches of the ramparts is conveyed by means of hydraulic machinery to public fountains and tanks, whence it is distributed in pipes throughout the city. There are 54 bridges across the numerous canals, by which the streets are intersected, of which 12 are of wood, and rotatory, and 42 of stone or brick: hence the Flemish name of the place,—Brügge, that is, *bridges*; in French

Bruges. The Ostend canal presents an expanse of surface that resembles a stately river, and is sufficiently wide and deep to admit the passage of ships of 500 tons from the sea. The canal to Ghent is also navigable for large and heavy vessels. Its *trekschuit*, or passage-boat, is a huge floating hotel, affording every accommodation; but delicate passengers are liable to much annoyance from the state of the nearly stagnant water, which often is nearly black with putridity, and covered with dead fish, owing, it is said, to the extensive steeping of flax in the river Lys, which joins the canal at Ghent. The level character of the country is shown by the fact, that between Bruges and Ghent, a distance of nearly 35 m., this great canal has not a single lock. The central basin or dock of Bruges is capable of containing above 100 vessels always afloat; and the convenient quays, stores, and spacious warehouses by which it is surrounded, afford great facilities for the despatch of business. The city is advantageously situated for both maritime and inland commerce; and though its commercial transactions are now infinitely inferior to those of which it justly boasted in the 15th century, they are perseveringly carried on with most of the principal ports of France, Spain, Holland, Italy, England, Sweden, Denmark, Norway, and Russia.

The leading manufactures of Bruges consist of lace, linens, woollen and cotton goods, and of salt and sugar refining. Breweries are numerous; and several establishments are in operation for the manufacture of soap, pottery, leather, tobacco, and especially for bleaching, distilling, and dyeing. The blue dyes of the stuffs of Bruges are believed to derive their peculiar excellence from the quality of the canal water in which they are scoured. The lace manufacture is the most important. It employs 7,400 persons, or more than one-sixth of the whole population. Children are taught to make lace in at least 200 schools established for this purpose. The exports comprise corn, cattle, and other agricultural produce of the soil, and the products of the various manufactories. The imports consist of wool, cotton, metals, dye-woods, drugs, wines, and miscellaneous foreign productions.

Among the most remarkable public edifices are the cathedral of Notre Dame (Onser Vrouw), the tower of which is so lofty, that when the atmosphere is particularly clear, it is visible from the mouth of the Thames. The interior contains an exquisitely carved pulpit; a marble statue of the Virgin and Child, attributed to Michael Angelo, and for which Horace Walpole offered 30,000 florins; and two costly old monuments of Charles the Bold, Duke of Burgundy, and his daughter, the wife of the Emperor Maximilian, in richly gilded bronze and silver. The old Gothic hospital of St. John, and the elegant cathedral of St. Saviour, have several celebrated pictures by Hans Memling, Van Dyke, and others. In the great hall of the Hôtel de Ville is the public library, containing many curious illuminated MSS., a missal of the 14th century, and the scheme of a lottery drawn at Bruges in 1445. These, and other Gothic buildings in the city, belong generally to the 14th century, and are ornamented with windows of rich coloured glass, sculptured monuments, and paintings by the old Flemish masters. In the great square is a lofty Gothic tower or belfry, the most beautiful in Europe, and its chimes or *carillons* are esteemed the most complete and harmonious in the Netherlands, where only superior qualities are approved in this species of musical instrument, or rather machine. In this tower there are forty-eight bells, some weighing six tons: they are played upon every quarter of an hour commonly by means of an immense copper

cylinder communicating with the clock, and weighing about nine tons. Its surface is pierced by 30,500 square holes, so that an infinite variety of airs may be set upon it, by merely shifting the iron pegs that lift the hammers. On particular days a paid professor of music performs the finest pieces by striking with great effort upon huge keys with well-guarded flats, and upon pedals with his feet. Watchmen are constantly posted at the top of this tower to make alarm signals of fire, by ringing a loud bell, and exhibiting in the day, a flag, and in the night, a lantern, towards the point whither the engines are required to hasten, which is further indicated by a speaking-trumpet. The city fire establishment consists of nine engines and 140 men. The ancient abbey of the Dunes is a vast and solid building, in which is held the episcopal academy. The Jerusalem church is a facsimile of the Holy Tomb. There is a Béguinage, or convent of Béguin nuns, and also a convent of English Augustin nuns, possessing a richly ornamented church. The city is divided into seven Catholic parishes, and contains one Protestant church. Several other public edifices are worthy of notice, as well as ancient private mansions interestingly associated with important historical events and personages. The council chamber of the Palais de Justice contains an immense chimney-piece of wood beautifully carved. In 1529, with figures of Charles V. and his family as large as life. There is a small theatre, a botanic garden, a museum of natural history, several literary and scientific societies, a well-attended atheneum or collegiate school for the higher degrees of education; a good surgical school, attended commonly by fifty students; and a very flourishing academy of painting and sculpture, in which, besides the student's course, gratuitous instruction is given to others in architecture, design, and drawing. Its gallery of paintings comprises several by the celebrated Van Eyck.

Few cities are better provided with endowed charities and asylums for the destitute and afflicted, and with schools for instructing the children of the poor. The average number of persons in a state of indigence within the city is estimated at 5,000. The poor-house is a central establishment for the two Flanders, and will contain 550 paupers: the number of inmates is generally about 500. The prison is kept remarkably clean, and the walls of its cells are rendered dry and secure by a casing of thick boards of oak. There is a *mont-de-piété*, or benevolent institution for lending money upon pledges. The temperature of the atmosphere about Bruges is subject to sudden and extreme transitions; and oppressive heat of the mid-day sun in summer is often succeeded by very chilling evening damps. Health and longevity appear, however, to be kept up to the average points, and those who possess the means of choosing their place of residence often prefer this locality; so that the spacious mansions of the opulent burghers of former times are now tenanted by many of the highest families of Flanders, and by retired independent merchants, to whom this old city would seem to have peculiar attractions. The adjacent rural districts to the W. display the most exuberant specimens of the Flemish farmeries; and orchards, which abound in every part of W. Flanders, are especially numerous in the vicinity of Bruges, producing excellent cherries, apples, pears, walnuts, plums, and, less commonly, apricots and peaches.

The history of Bruges commences at a very early date. It was a prosperous seat of manufacturing and commercial industry long before Ghent and Antwerp rose to the same distinction. In the 7th

century it was rapidly acquiring importance, and under Charlemagne, at the end of the 8th century, its weavers were highly distinguished. During the government of the rich and powerful counts of Flanders, who resided at Bruges from the 9th to the 15th centuries, its woollen manufactures grew and flourished to an amazing extent, so that Philip le Bon, in 1430, to commemorate its great prosperity, instituted the chivalric order of the Golden Fleece. At the Flemish court of this ostentatious Duke of Burgundy, whose hypocrisy, and not his exemption from pride and cruelty, procured him the cognomen of Good, a sumptuous splendour of pageantry was displayed, which no European monarch could imitate, and an absolute power was exercised, which none dared dispute. The records of luxurious banquets and apparel at this period are almost incredible. Not only the dresses of men and women, but the housings of their horses, were of velvet, satin, and gold, profusely spangled with brilliant jewels,—an extravagance which Charles V., in the following century, was obliged to suppress by enacting sumptuary laws. The wealth and splendid attire of the citizens of Bruges had long been subjects of wonder; for when the queen of Philip le Bel, of France, visited this city in 1300, she is said to have exclaimed with astonishment, 'I here see hundreds who have more the appearance of queens than myself.' The public and private buildings of the city were worthy to display such courtly magnificence; so that Southey, judging from the existing architectural remains of that ancient grandeur, says, in his 'Pilgrimage to Waterloo,'—

'When I may read of tilts in days of old,
Of tournaments graced by chieftains of renown,
Fair dames, grave citizens, and warriors bold—
If fancy would portray some stately town
Which of such pomp fit theatre might be,
Fair Bruges! I shall then remember thee.'

This noble city, throughout the 14th and 15th centuries, was the central emporium of the whole commercial world, and had resident consuls and ministers from every kingdom in Europe. In the Hanseatic League, or confederacy of the great European ports for the promotion of commerce, Bruges was the leading city, and the grand dépôt of naval stores. Her quays were crowded with foreign ships and merchants, and her piles of magnificent warehouses were filled with the wool of England, the linen of Flanders, and the silk of Persia. Her weavers were celebrated for making the most beautiful description of tapestry more than a century before the Gobelins manufacture was commenced under the direction of their descendants. The wealth of the citizens of course was enormous: a single merchant gave security for the ransom of Jean sans Peur, the last Count of Flanders, to the amount of 400,000 crowns of gold. The annual exports merely of stuffs manufactured from English and Spanish wool amounted to 8,000,000 florins, and the florin was then quadruple its present value. This amazing prosperity continued undiminished during the dominion of the dukes of Burgundy; but under the Austrian dynasty, at the close of the 15th century, the rebellious conduct of its inhabitants, in forcibly imprisoning the Archduke Maximilian, induced his father, the Emperor of Germany, to visit the city with such destructive vengeance that henceforth its greatness died away, its trade was transferred to Antwerp, and the religious persecution and brutal ferocity of the Spanish under Philip II. and the Duke of Alba completed the process of its ruin, at the end of the 16th century, by compelling its artizans to escape for their lives to England, where they found a hearty welcome from Queen

Elizabeth, and became the means of establishing the woollen manufactures, for which this country has since become so distinguished. The subsequent history of Bruges, under the dominion of the Spanish, French, and Austrians, is comparatively of little interest.

Bruges, during its golden age of commercial ascendancy in the middle ages, was the native place of numerous eminent scholastic and philosophic authors, classical commentators, mathematicians, jurisconsults, theologians, physicians, and painters.

BRÜGGEN, a town of Prussia, prov. Rhine, reg. Düsseldorf, on the Schwalmen, 10 m. SW. Kempen. Pop. 670 in 1861. The town has a fine Catholic, and a Calvinist church, with linen fabrics, bleach-fields, oil-mills, and a tannery.

BRUGUIÈRE, or LA BRUGUIÈRE, a town of France, dép. Tarn, cap. cant., on the Thoré, 4 m. S. Castres. Pop. 3,600 in 1861. The town has manufactures of flannels, coverlets, and other descriptions of woollen goods.

BRÜHL, a town of Prussia, prov. Rhine, reg. Cologne, 4 m. W. the Rhine, and 9 m. S. Cologne, on the railway from Cologne to Bonn. Pop. 2,060 in 1861. It is surrounded by walls, is well built, and has a seminary for the instruction of schoolmasters; but it derives its principal consequence from the magnificent castle in its vicinity, commenced in 1725 by the elector Clement Augustus of Bavaria, and finished by Maximilian Frederick. It is splendidly fitted up, and has extensive pleasure-grounds and gardens.

BRUMATH, or BRUMPT, a town of France, dép. Bas-Rhin, cap. cant., on the Zorn, 12 m. NNW. Strasburg. Pop. 4,803 in 1861. The town is supposed to occupy the site of the ancient *Bracomanus*; and the medals, marbles, and urns, which have been found here prove, at least, that it had been inhabited by the Romans. Some hard fighting took place in its vicinity, in 1793, between the French and Austrians.

BRÜNN, a town of the Austrian States, cap. Moravia, at the confluence of the Schwarza and Zvitava, 70 m. NNE. Vienna, on the railway from Vienna to Prague. Pop. 58,900 in 1857. The town is built on the declivity of a hill, having the cathedral on its summit, and the suburbs at its foot; is encircled by walls, bastions, and trenches, and was formerly defended by the citadel of Spielberg, on the hill of that name to the W. of the town; but the defences of the latter having been destroyed by the French, it was subsequently used as a state prison, and has more recently been converted into barracks. Silvio Pellico was shut up in the Spielberg for above eight years. Though narrow and crooked, the streets of the town are well paved, lighted, and provided with foot pavements. Among the public buildings are,—the cathedral, remarkable for the height of its nave; St. Jacob's church, built in 1315, with a tower 276 ft. in height, a bell weighing 115 centners, and some monuments; the episcopal palace; the *Landhaus*, formerly a rich Augustine convent, now the residence of the governor, and the place of meeting of the states of the prov.; the town-house, a Gothic structure, built in 1511; the barracks, an enormous pile, formerly the Jesuits' college, having seven courts, a fine church, and a riding-school; the theatre, with its assembly-rooms; and the Maria school for young ladies. Many of the nobility belonging to the prov. have here fine palaces, which give an air of grandeur to the town. The quarter called the Franzensberg is very picturesque; in the gardens a marble monument was erected in 1818, in honour of the late emperor Francis I. The Augarten, a park laid out as a garden, was opened to

the public by Joseph II. Brunn is the seat of a bishopric and of the government of Moravia and Austrian Silesia, of a Protestant consistory, a court of appeal, high criminal and military courts, the *landrecht*, or nobles' court for the prov., and is the place of meeting of the provincial estates, and the residence of their standing committee. It has a philosophical institute, a gymnasium, a principal normal school; schools for young ladies, tradesmen, and mechanics; a theological seminary, and numerous parish and infant schools; an imperial society for the encouragement of agriculture and of the natural history and geography of Moravia, to which is attached a valuable museum, a botanical garden, and a public library. It has general, orphan, and lying-in hospitals; a lunatic asylum; with numerous institutions for the relief of the poor. The manufactures of Brunn are of very considerable value and importance. Those of woollen goods are the most extensive in the empire; and the town has thence been called the Austrian Leeds. The woollen manufacture occupied 18,000 hands in 1861, and the annual value of the produce is estimated at 20,000,000 florins, or 2,000,000*l*. The cotton manufacture has been introduced, and has made considerable progress; and silk, glass, soap, tobacco, and machinery, are extensively produced. Its trade is very extensive; and has been much increased by the opening of the Kaiser Ferdinand railway, which connects it with Vienna, Prague, Dresden, and all the important towns of Germany. There are seven annual fairs.

BRUNSWICK (Ger. *Braunschweig*), THE DUCHY OF, in Germany, consists of five detached portions of territory on the rivers Weser, Seine, Ocker, and Aller, between lat. 51° 38' and 52° 59' N., and long. 9° 10' and 11° 22' E. It occupies part of the vast plain which stretches from the foot of the Harz mountains, and their continuation (the Solling) to the German Ocean and the Baltic, with a portion of the rise of those chains on the N. side. The largest portion contains the districts of Wolfenbüttel and Schöningen, in which the cities of Brunswick and Wolfenbüttel, and the towns of Königsbutter and Helmstadt, are situated. The district of Wolfenbüttel is traversed by the Ocker, which rises in the Harz mountains, and is not navigable. The Aller traverses the district of Schöningen, but is not navigable in that part of its course; nor is the Seine navigable, which traverses the district of that name. The Weser, which forms the boundary of the duchy towards Prussian Westphalia for a considerable distance, affords an excellent water communication with the sea and the harbour of Bremen on the one side, and with the states of Hesse and Thuringia, in the heart of Germany, on the other, by means of the Werra and the Fulda, which unite near Minden, and thence take the name of Weser. This river, which forms the main outlet for the waters falling from the N. and W. sides of the Harz, and the Thuringian forest, ultimately receives all the smaller streams which previously unite with the Aller, excepting the Bode, which falls into the Saale, a tributary of the Elbe, and which traverses the third and most southern detached portion of territory, the district of Blankenburg. Of the Harz mountains, which, with the Thuringian forest, separate the tributaries of the Elbe from those of the Weser, a considerable portion, valuable for minerals and forests of vast extent, belongs to Brunswick. The summit of the Brocken, and the rude and almost impassable Central Harz, in which granite, mica slate, and primitive formations predominate, belong to Hanover, while the E. and W. falls of the range, in which the transition and secondary formations prevail, form part of the Duchy of Brunswick. A

portion of this mountain chain belongs jointly to the two governments, and is distinguished by the denomination of *Communio Harz*. The highest summits within the Duchy are the Wormberg, 2,880 ft., and the Ackermanshöhe, 2,706 ft. in height. The next considerable mountain, or, rather, forest range, is the Solling, which lies between the rivers Seine and Weser, and is covered with extensive and valuable woods of oak and beech. The summits of this chain are of no great elevation. Iron is found, and sandstone, known under the name of Sollinger stones, is quarried in them. The Elm, a slight range of heights between the Ocker and the Aller, is covered with woods of oak and beech, and contains veins of iron and beds of coal, with occasional mineral springs.

Two small detached portions of territory, viz. the circuit of Thedinghausen on the Weser, to the NW. of Hameln, and that of Badenburger, are enclosed by the Hanoverian territory, and form part, the former of the Weser district, the latter of the Seine district. Finally, the detached circuit of Kalvorde, inclosed within the Prussian province of Saxony, belongs to the district of Schöningen.

The duchy has an area of 1,526 square miles, with a population of 282,400 inhabitants, according to the census of 1861. The population numbered 209,527 in 1814; had risen to 253,232 in 1834; to 269,228 in 1846; and to 273,394 in 1858. There are only two towns with a pop. of above 10,000, namely, Wolfenbüttel, and Brunswick, the capital. The great majority of the inhabitants are engaged in agricultural and mining operations.

With the exception of 1,107 Calvinists; 2,458 Roman Catholics, and 1,078 Jews—census of 1861—all the inhabitants adhere to the Lutheran faith. The most perfect toleration and equality of civil and religious rights are shared by all the Christian persuasions.

The hilly parts of the duchy are covered with forests of fir, oak, and beech; about 390,000 acres are arable and meadow land, 294,000 acres, forests, and 228,000 uncultivated moors, water, &c. The plain at the N. fall of the Harz is mostly of a limestone soil, alternating with beds of loam, and is fertile; the districts along the Weser and Seine are also fertile; but the predominant feature is sand in those parts. Towards the N. part of the duchy, these fruitful plains merge into the arid and unproductive sandy heaths of Dolgen and Lüneberg. The average produce of corn, of all descriptions, is estimated at about 575,000 qrs.; oil from linseed, rape, and poppies at 1,200 tons, flax 4,500 tons, besides tobacco, madder, and hops, in each of which articles, the produce considerably exceeds the consumption. Cattle breeding is carried on successfully in the river districts; and improved breeds of cattle and sheep are found on all the larger estates. Hogs are very extensively reared; but the sausages and hams of Brunswick enjoy so much reputation, that a large importation of hogs takes place from the neighbouring states, the produce of which is sent to all parts of the Continent. Horses are not reared in sufficient numbers to supply the wants of the duchy, and are annually brought from Holstein and Mecklenburg.

The extensive forests, which had suffered, from many years of neglect and wasteful management, have of late been improved under scientific direction, and are divided into four inspectorships (*Forstmeistereien*), and 61 foresters' districts. Timber, of valuable quality, is annually floated down the Ocker, Seine, Innerste, and Weser, especially from the Harz and the Solling forests, and forms a considerable object of export trade. The game in these forests is not very abundant, consisting of

red deer, roebucks, hares, and rabbits, with occasional wild boars. A species of thrush (*Krammetsvogel*) caught by thousands in the winter season, is esteemed a great delicacy. Fish not very abundant, nor of rare sorts. The mineral riches of the Harz mountains, although no longer so prolific as reported in former times, afford employment to about 750 people, working in thirteen mines. Of the latter, three are private, and the other government undertakings, managed partly in conjunction with Hanover, and partly by Brunswick alone. The Rammels berg, near Goslar, of which 3-7ths is the share of Brunswick, and 4-7ths that of Hanover, is the most important of all the mines, producing antimony, lead and copper, together with small quantities of gold—about a hundred ounces a year. Iron is the chief produce of the mines worked separately by Brunswick in the three districts of the Harz, Weser, and Blankenberg. Most of them, as already stated, are worked on government account, and as well as the salt mines, stone cutting mills, four glass houses, and the porcelain manufactory at Fürstenberg, are under the direction of a mining board at Brunswick. The salt works are very considerable; they are established at Salzdahlum and Salzliebenhall, in the district of Wolfenbüttel, and at Schöningen. That at Salzdahlum has been worked since the 13th century. The brine spring at Julinshall is worked jointly with Hanover. In the Brunnenholz, near Helmstadt, there is a coal-mine with two shafts, and another near Walkenried, where alabaster and agates are found. Mineral springs occur in several parts; those near Helmstadt and Seesen are frequented by invalids. Asphaltum and other bituminous substances are found in many parts of the Harz mountains, especially at the Rammels berg and Iberg.

Besides the iron-works, linen weaving is the chief article of manufacture, which, however, has greatly declined of late years. Camlets are the only description of woollens woven within the duchy; a spinning-mill for woollen yarn has been established at Bevern; and spinning is a source of industry among many of the small peasant proprietors (*Bauern*) of the country. Brewing is extensively carried on in all the principal towns, but the beer is bad, and does not prevent the universal use of brandy amongst the lower classes. The Mumme, a heavy draught extracted from malt, is now principally used by persons in delicate health, and is exported for that purpose to all parts of Germany. Oil and sawing mills are found on nearly all the principal streams, and the preparation of the root of chicory as a substitute for coffee, which attained to a great extent during the exclusion of colonial produce under the continental system, is still favoured by high duties on such produce within the limits of the customs' league or Zollverein. Trade, especially the transit trade, is a great source of emolument both to the town and duchy of Brunswick, and is principally transacted at its ancient fair, which, in spite of railways, still keeps up its importance. The government wisely directs its attention to the encouragement of the different industrial resources, and has preferred establishing a liberally-endowed and well-conducted system of education to the imposition of protecting duties, by which one class of the people is aided at the cost of the others. The foundation of the 'Real Institute,' which unites with practical instruction in agriculture and the management of forests the scientific information on which the higher branches of these occupations, as well as mining, and the mechanical and chemical arts, ought to be founded,

marks an epoch, even in Germany, where so much care is shown for intellectual improvement. Nor are the higher branches of knowledge neglected. The Lyceum, formerly the Caroline College; two normal schools for teachers; and six gymnasia, afford ample means of cultivating them. The university formerly existing at Helmstadt, the revenues and library of which were transferred during the Westphalian régime to Göttingen, has not been re-established, but Göttingen is regarded as the university of the duchy. There are 63 burghers' schools, and 369 elementary schools, giving one to nearly every village. The revenues of nine secularised convents and religious foundations are applied to support a number of unmarried young women and other persons on the presentations of the patrona. The charitable foundations are 52 in number.

The inhabitants of the duchy are mostly descendants of the ancient 'Brokmanner,' a branch of the Sassen or Saxons, and the Low-German language is universal among the villagers, except on the Harz, whose mining population was drawn from Upper Germany, and speaks High-German. The names of some villages, as Wenden, are perhaps the sole remains of the ancient Wendish or Slavonian inhabitants of the north-eastern parts of the duchy. The higher classes of the towns speak High-German, which, as all over Germany, is the language of public business and of the schools.

The constitution of Brunswick bears date (October 12, 1832, but was modified by the fundamental law of November 22, 1851. The legislative power is vested in one Chamber, consisting of forty-three members. Of these, nine are elected by the highest-taxed landed proprietors; ten by the magistrates of the chief towns; three by the Protestant clergy; ten by the inhabitants of towns, and eleven by those of rural districts. The Chamber meets every three years, and the deputies hold their mandate for two sessions. With the exception of the members of the clergy, which must be chosen, no distinction of rank or property influences or limits the choice of this last portion of the assembly. The members chosen for the towns and for the country must, however, belong to that class of each which pays the highest amount of taxes, and which is fixed to include one-tenth of the houses in town, and one-fourth of the landed holdings. The budget is voted for three years, and the Chamber has the right of controlling the expenses of the state. The public revenue for the years 1861-3 was 4,983,000 thalers, or 747,450*l.*, and the expenditure of the same amount, giving an annual income and expenditure of 249,150*l.* Not included in the budget is the very large revenue from the State domains, out of which the civil list of the Duke, and a variety of subventions to educational establishments, are paid. The surplus of this fund only is paid into the general exchequer, and set down at 432,000 thalers, or 64,800*l.*, for the period 1861-63. The Duke further derives a revenue of 170,000 florins from the duchy of Oels, in Silesia, and a mediatised principality under the sovereignty of Prussia, which is an appanage of the second branch of the House of Brunswick. Finally, the estates of the convents and religious foundations secularised at the period of the reformation, and then destined to support the clergy and institutions of education, form a separate fund, which does not enter into the budget, yielding the sum of 340,605 dollars annually.

The military organisation of the duchy is on the Prussian system of general liability to the

service of arms. Practically, however, no more men are raised by conscription than are required as contribution to the army of the Confederation. The troops amount to one regiment of infantry, numbering about 2,000 men; one battalion of life-guards, some seven hundred strong; one regiment of light dragoons, of 437 men; and one brigade of artillery, with 801 rank and file. In former times the army of the duchy was far more numerous. During the Seven Years' War, Brunswick had never less than 12,000 men under arms. In the war of 1813-14 the country raised above 10,000 troops.

The present Duke of Brunswick is the lineal descendant of Henry the Lion, the last of the house of Welf, who held the united duchies of Bavaria and Saxony. In their rivalry with the Suabian house of Hohenstaufen in the 12th century, the party of the powerful Welfs was stronger in Italy than in Germany, and the jealousy entertained of their power in the former country, caused all the princes of the empire to unite with the Emperor Frederick Barbarossa in humbling them. Henry the Lion having refused to aid that emperor in his wars with the free Italian cities and the pope, was deprived, by a decree of the diet in 1180, of both duchies, and only left the possession of his allodial domains of Brunswick and Lüneburg, which were subsequently split into numerous branches, but merged finally in the still reigning lines of Lüneburg (or Hanover) and Brunswick, which is the elder branch. As such, the crown of England would have devolved to this line, which claims descent from the daughter of Henry II. on the extinction of the House of Stuart, had not the Duke of Lüneburg, afterwards George I., by marrying the daughter of Elizabeth, Countess Palatine, the daughter of James I. of England, procured a prior claim to the younger line. Treaties of mutual inheritance exist between the houses of Hanover and Brunswick, and the succession only passes to the female side when legitimate male heirs fail. The intimate family connection which in the last century subsisted between the House of Brunswick and the reigning families of Great Britain and Prussia, engaged the princes of Brunswick in political alliances with these two powers, in opposition to France, and occasionally to Austria. The Prussian army, at the outset of the disastrous campaign of 1806, was commanded by the Duke Charles William Ferdinand of Brunswick, who fell in the battle of Jena. Although he had declared his duchy neutral, and no Brunswick troops were with the Prussian army, yet his lands were immediately seized by the conqueror, and incorporated with the kingdom of Westphalia. His youngest son, Frederick William, after the death of his eldest, and the abdication of his second brother, the sole remaining heir, served for some time in the Prussian, and afterwards in the Austrian army. In 1809, this adventurous prince raised a small corps, and attempted, in co-operation with the grand Austrian army, to excite a diversion in the north of Germany; but finding his cause ruined by the victory of the French at Wagram, he crossed the whole of Germany, at the head of a small body, not exceeding 2,000 men, and marched from the Bohemian frontier to the sea coast near Bremen. Eluding and alternately fighting the various French corps which crossed his passage with equal good fortune and bravery, he succeeded in embarking for England, where his troops joined the British army, with permission to retain the black uniform which their bravery had rendered celebrated, and served until 1814 in the peninsula. Having

regained his dominions, under the stipulations of the treaty of Vienna, Frederick William fell at the head of his troops while maintaining the position of Quatre Bras, two days before the battle of Waterloo. His successor, Charles, was driven away in 1830, and the throne made over to his brother William, the present duke, and the last of the line. He being without legitimate heirs, the duchy at his death will fall to Hanover, in conformity with ancient treaties.

BRUNSWICK, a city of Germany, cap. of the above duchy, on the Ocker, 8 m. S.E. Hanover, on the railway from Hanover to Berlin. Pop. 42,209 in 1861. One Bruno, who appears about the year 842 as Duke of Ostfalen, is said to have first built walls round the little town of Brunswick, to protect it from the incursions of the Normans. Henry the Lion, Duke of Saxony and Bavaria, and the grand champion of Christianity and Germanic civilisation against the Slavonic nations on the Elbe and the Baltic Sea, towards the close of the twelfth century made Brunswick his place of residence, and extended and adorned the city. He finished the cathedral church of St. Blaise, an interesting monument of the Byzantine Gothic style, endowed it with lands and relics brought from Constantinople and the Holy Land, and erected a bronze figure of a lion, said to have been cast in the Greek capital, upon a pedestal in front of his palace, on the site of which a barrack now stands. From this period Brunswick became one of the most important cities in N. Germany; and the wealth of its dukes, who were owners of the extensive mines and salt works in the Harz mountains, and in the vicinity, was principally expended in the cities of Lüneburg and Brunswick, the seats of the chief lines of the Welf family. In the thirteenth century Brunswick, which, owing to these resources, had advanced in commercial prosperity, became a member of the Hansatic League, and flourished as one of the leading cities of Lower Germany. On the decline of the league the increased power of the territorial princes exposed the city to the vicissitudes which their political speculations drew upon the country; and Brunswick suffered in common with other N. cities upon the advance of the Imperial armies under Tilly and Wallenstein, in the thirty years' war. The division of the reigning house into many branches was also, at that period, disadvantageous to Brunswick, which saw the rival cities of Wolfenbüttel, Celle, Hanover, and Göttingen spring up and prosper as so many diminutive capitals, each the seat of a petty court. The city was further almost drained of its small remains of wealth during the French occupation; but through the industry of its inhabitants, and the celebrity of its fair, held in February and August, and frequently visited by 20,000 strangers, it keeps up its importance as a commercial city. The railway from Brunswick to the foot of the Harz mountains, opened in 1839, is one of the oldest in Germany. The fortifications of the city have been levelled since the peace, and converted into agreeable plantations, with walks and drives; and the city, although bearing rather an antiquated appearance, has some good streets, and abounds in interesting remains of the middle ages. The cathedral, and church of St. Giles, which has been fitted up as a repository for works of art, the bronze lion before mentioned, and the town house, with a curious gallery adorned with the statues of many of the dukes in niches, and the bronze fountain in its vicinity, are deserving of notice. A splendid new ducal palace, built at an enormous expense, to replace the residence of Duke Charles, destroyed by the mob in 1830, was burnt down in 1865. The

church of St. Andrews, with its steeples, one of which is 318 ft. in height; and that of St. Catherine, with paintings by Diebrich, and stained glass windows from designs by Cranach and Durer, as well as the church of St. Martin, in the pointed Gothic style, are interesting to lovers of the fine arts. In the museum, amongst a number of inferior paintings, are some of high value of the Flemish and Dutch schools, by Rembrandt, Jan Steens, Vandyke, and Rubens, together with a portrait of Raffaele, said to be by his own hand; and others by Guido, Giorgione, &c. An *Ecce Homo*, by Albert Durer, a crucifix, by Benvenuto Cellini, with a collection of antique statues and coins, are worthy of inspection. The celebrated Onyx vase, purchased by one of the dukes of Brunswick, who secured it as his share of booty when Mantua was sacked, in the course of the thirty years' war, together with several other objects of value, were carried off, and are still retained by Duke Charles. The Caroline college, now divided into a lyceum or classical college, with a gymnasium or grammar school, and a 'real schule,' or mechanics' and commercial institute, with a branch for agriculturists and foresters, a college for teachers, several elementary schools, a general and a lying-in hospital, with schools of surgery, orphan and deaf and dumb asylums, are the public institutions for education. The town has also manufactures of linen and woollen stuffs, and hardware; and numerous charitable institutions.

BRUNSWICK, a town of the U. States of America, Maine, on the Androscoggin, 26 m. SW. Augusta, and 30 m. NE. Portland; lat. 43° 53' N., long. 69° 55' W. Pop. 6,190 in 1860. It is a place of considerable trade. On the opposite side of the river is Topsham, with which town it is connected by two bridges. The falls of the river afford a convenient supply of water power, which is used to some extent, to give motion to corn mills, and woollen and cotton factories. Bowdoin College, founded in 1794, stands on an elevated plateau near the town. It possesses a philosophical and chemical apparatus, laboratory, cabinet of minerals, gallery of paintings, and a library containing 21,950 vols. A medical school, connected with the college was established in 1820. In 1862, the college had 8 professors, and 939 students.

BRUNSWICK (NEW), a city of New Jersey, in the United States of America, partly in Middlesex and partly in Somerset cos., on the SW. side of Raritan river, 22 m. NE. Trenton. Pop. 10,990 in 1860. The town lies rather low; but is considered healthy, and has a good deal of trade. It has a court-house, jail, market-house, two banks, a theological seminary, and several places of worship. Rutgers College, founded in 1770, under the name of Queen's College, is a handsome stone building three stories high, with libraries containing upwards of 12,000 volumes. The Raritan is navigable as far as New Brunswick for sloops of 80 tons burden.

BRUNSWICK (NEW), a territory belonging to England in N. America. See *NEW BRUNSWICK*.

BRUSSELS (Lat. *Bruzella*, Flem. *Brussel*, Fr. *Bruzelles*), capital of the kingdom of Belgium, and of the prov. of Brabant, about 50 m. E. by S. from the sea, on the Senne, a small river, which, rising near Soignies in Hainault, and flowing N., falls into the Scheldt, through the Rupel. Pop. 177,954, according to the census of 1856; and 300,341, according to an enumeration of Dec. 31, 1863. The latter number comprises the pop. of eight surrounding parishes, not included in the census returns. The scenery of the adjacent country is beautifully diversified by sloping heights,

and green valleys refreshed by the waters of the Senne. A large portion of the city being built on the acclivity of a hill, it presents, when viewed from the W., a picturesque amphitheatre of houses; and the great inequality of the elevation of its site has often induced a comparison with Naples and Genoa. The figure described by the outline of the surrounding wall resembles that of a pear, the smallest part pointing SSW. The greatest extent of the city, from NNE. to SSW., is about 8 m.; and the extreme width, from NW. to SE., about 2½ m. Brussels, a century ago, was completely surrounded by strongly fortified ramparts, with salient angles, and ditches or moats, supplied from the river Senne. These fortifications are now almost wholly removed, and their site is formed into spacious boulevards, planted with rows of stately linden trees, that encircle two-thirds of the city, on the N., the E., and the S. The city wall is overlooked by the boulevards, which command extensive views of the country, and afford an agreeable promenade, extending about 5 m. from the Port au Rivage on the N., to the Porte de Hal on the S. There are nine of these *portes* or mural gates, several of which are fine old architectural arches of great strength. They communicate with, and bear the names of, the high roads that traverse the kingdom and centre in the capital.

The Senne enters the city on the NW. side by two branches, and forms, within the walls, four islands, of which the principal are named St. Gery and Bon Secours. This rivulet is only about 30 ft. in width, and from 4 to 6 ft. in depth, and is not navigable in any part of its course. Brussels, however, besides being in the network of the Belgian railway system, possesses the advantage of water communication with Charleroy on the S. and with Mechlin, Antwerp, and the ocean, on the N., by means of two capacious and well appointed canals. The width of the Antwerp canal is 45 ft. It was opened in 1551, and cost nearly 2,000,000 of florins, or 166,000l. Five locks overcome a descent of 50 ft., in a course of 17 m., between Brussels and the town of Boom, where the canal joins the Rupel, a large affluent of the Scheldt. The head of this canal, in the NW. quarter of the city, is furnished with several commodious basins and quays, whence goods are conveyed in large barges to the junction of the Rupel. The Charleroy canal cost 4,350,205 florins, and was opened in 1830. It is carried along the W. boundary of the city, in the ancient ditches of the fortifications to the Port au Rivage, where it communicates with the canal to Antwerp. Fifty-five locks obviate a fall of 432 ft., in its course of 45 m. to Brussels. It passes through a tunnel of 1,175 yards, and is crossed by fifty-five aqueducts and thirty-six bridges. The soil of the elevated ground, occupied by the S. and E. portions of the city, is sand, interspersed with fossils, marine substances, calcareous stones, and layers of ferruginous earth; and that of the lower N. and W. section consists of a sandy marsh, mixed with marine substances, and covered with a deep bed of peat or turf. The highest part, on the S. extremity, between the *portes* of Hal and Namur, is about 220 ft. above the level of the sea. The upper town, known as the Quartier Leopold, contains the royal court and government offices, the park, the finest squares, streets, and hotels, and the mansions of the higher classes. The central and lower town comprises chiefly the trading and operative portion of the population, and has generally a more crowded and mean appearance, though it still abounds in fine old ornamented buildings, once occupied by the ancient nobles of Brabant. The *Rivage*, at the N.

extremity, is inhabited by rich merchants, and presents a constant scene of commercial activity. The city is abundantly supplied with spring-water, by means of pipes and powerful hydraulic engines, from three subterranean caves at Etterbeek, a beautiful village in the southern vicinity. There are besides ten springs within the walls, thirty fountains, and about ninety pumps. Several fountains are ornamented by elegant obelisks and groups of exquisite bronze and marble sculptures. The most remarkable are *Les Fontaines des Fleuves*, in the court of the Hôtel de Ville, formed of river gods in white marble, and dolphins in bronze; the *Fontaine de Minerve*, in the Place du Grand Sablon, consisting of a beautiful group of figures in white marble, erected in 1741, by the Earl of Aylesbury, in attestation of his respect for the inhabitants, after residing among them forty years; and the *Mannikin Pis*, near the Hôtel de Ville, in the centre of the city. This is an exquisite bronze figure, about 2 ft. in height, of an urchin boy who discharges a stream of water in a natural manner. Great value and historical interest are attached to this antique little figure by the old citizens of Brussels, who regard it with peculiar solicitude as a kind of municipal palladium. The ancient part of Brussels is ornamented by many fine specimens of the florid style of Gothic architecture of the sixteenth century; and the modern part exhibits numerous excellent buildings, erected about fifty years ago; but the newly-built dwelling-houses have commonly the uncouth form and fashion of granaries or manufactories, and are often constructed with very inferior bricks, and with timbers too slender for the lofty tiled roofs. Their uniformity of appearance too is destroyed by the custom of painting the fronts with strongly contrasted colours, such as yellow, green, and white, which often produce a glaring effect, more suitable for isolated inns or fancy cottages than the streets of a metropolitan city. In the Rue de la Madeleine and Rue Montagne de la Cour are many elegant shops, and these are accounted the liveliest and most frequented streets in Brussels, though in appearance and business they are certainly dull, compared with Paris or London. Indeed, the dullness in general forms a common subject of remark among the French and English residents in the capital of Belgium. Four uniformly-built streets surround the large palace garden called the Park, namely, the Rue Royale, which will admit of comparison with some of the finest streets of the European capitals; the Rue Ducale, in which are the palace of the Prince of Orange and the grand concert room; the Rue Bellevue, containing the king's palace; and the Rue Brabant, in the centre of which is the palace of congress, or houses of parliament. The Grande Place, or great market-place, in the centre of the city, is a noble and very interesting square, containing the gorgeous old Gothic Hôtel de Ville, the Maison du Roi, and many other rich specimens of the ancient ornamental architecture. Here, in 1568, counts Egmont and Horne were beheaded by the Spanish viceroy the Duke of Alva, whose persecutions brought ruin and death into almost every house in Brussels. The Place Royale, near the king's palace, is perhaps the finest square in Brussels. The houses around it are remarkably handsome and regular. The Place du Grand Sablon is the largest square, and is used as a market-place. The Place de la Monnaie is also extensive, and approached by several spacious streets: it contains the theatre, the mint, the exchange, and some of the finest cafés in the city. The Place de St. Michel, better known since the Revolution as the

Place des Martyrs, is planted with rows of Linden trees, and surrounded by uniform and elegant buildings ornamented with Doric columns. This square was chosen for the sepulture of those who fell in opposing the royal forces during the revolutionary struggle in September 1830. There are 14 other squares of less distinction, but which at once serve the purposes of health and ornament. The park is an open oblong space of about 14 acres, on the high eastern side of the city. Its surface is covered with smooth verdant turf, and is formally laid out in broad straight walks and winding paths, which are overshadowed and sheltered by lofty beech and chestnut trees and plantations of acacias. There are several fountains, and many excellent marble statues, busts, vases; and groups of persons and personifications from classical mythology and history are distributed about the grounds. The walks command a great variety of interesting scenery, including the old Gothic edifices of the lower town and the surrounding country, which is very picturesque. In the N.E. corner of the park is 'Vauxhall,' comprising a small theatre for vaudevilles, and a ball-room. Along the banks of the Antwerp Canal, issuing from the N. point of the city, is the beautiful promenade called the *Allée Verte*, that is, the Green Alley. It is formed of a broad carriage-road, and on each side a foot-way, divided by four rows of umbrageous elms, extending about a mile and a half. Here the royal family, and multitudes of all classes, are seen every fine evening enjoying the freshness of the country air, and the pleasing views of numerous villas and rural scenery. In fact, the environs of Brussels are in general so interesting, that they form the subject of a large portion of every full description of the city. Besides the excursion to the battle-field of Waterloo, and its surrounding localities, still exciting to the curious, about 35 villages in the more immediate vicinity of Brussels are well worth the attention of strangers. Among the objects of interest are—the splendid royal palaces of Laeken and Tervueren, and the great workhouse and penitentiary establishments of Vilvorde and La Cambre.

The royal palace at the S. extremity of the park, presents a façade of 120 yards in length, with a central portico and arcades. The style of architecture is plain, and the general aspect of the structure not at all remarkable. The interior too offers little worthy of inspection beyond the usual suites of royal saloons and apartments, which are very superbly furnished, and covered with rich velvet, satin, and gilt. The paintings are neither numerous nor very valuable, with the exception of Vandyke's *Chapeau de Velours*. The Palais du Congrès, at the N. end of the park, is a magnificent building, ornamented with fluted Doric columns and appropriate sculptures. Marble stairs on each side of a spacious hall ascend to the two chambers of parliament, which are elegantly fitted up for the reception of the members. The public are admitted into both chambers during the debates, females as well as males; and for this accommodation, the Chamber of Deputies contains a capacious gallery. On the E. side of the park is a palace, which, before the revolution of 1830, was occupied by the hereditary Prince of Orange. It was built in 1820. The exterior is nobly simple, presenting a façade 230 ft. in length, with a lofty central dome and cupola. The interior is not surpassed by any European palace in sumptuous furniture and elegant decorations. The paintings are not numerous, but of the highest order, comprising some of the most choice productions of the Flemish and Italian schools. The Hôtel de Ville, in the Grande Place, or great central market-place,

is one of the largest and most remarkable of those civic palaces, in the florid Gothic style, that are to be seen in perfection only in the Netherlands. It was erected in 1400. The architecture is Lombardo-Gothic, with a great profusion of quaint sculptures, pointed turrets, and other fanciful and intricate ornaments. In the front are 40 windows, and in the lofty sloping roof 80 more. At a point remarkably distant from the centre of the front, an elaborately ornamented pyramidal tower, open throughout to the summit, rises to the height of 364 ft., and commands a fine view of the surrounding country, including the battle-field of Waterloo. It is surmounted by a colossal copper gilt statue, 17 ft. high, of St. Michael crushing a dragon, which turns about to serve for a weather-cock. The interior of the building is entered by a spacious flight of steps, and the lofty halls and saloons exhibit many curious old paintings, gilded carvings, and specimens of fine tapestry. Opposite the town-hall is a venerable Gothic edifice, built about A.D. 1000, called the Brood Huys (bread house) or Maison du Roi. The Palais de Justice is a large building containing the courts of law: its front displays a noble portico, imitated from that of Agrippa's Temple at Rome. The Palais du Conseil d'Etat, the Hôtel des Monnaies, and several other state offices, are structures more or less elegant: also the theatre, which was opened in 1819, and cost 56,000*l*. Its interior displays very commodious arrangements and tasteful decorations. The stage in front is of greater width than that of the Grand Opera at Paris. Near the Place Royale is the large and handsome old Palace or Const, founded in 1800, and rebuilt in 1746. When this was the residence of the Spanish and Austrian governors of the Netherlands, it was one of the richest palaces in Europe. It now contains the public library, lecture-rooms, museums, and galleries of paintings and sculptures. The Palace of Industry is a large adjoining building for the exhibition of the manufactures of the kingdom, mechanical models, and new inventions.

Brussels contains several grand and venerable cathedral churches, erected in the middle ages. Four only of 16 are considered primary, and belong each to one of the 4 arrondissements into which the city is divided: the others, although little inferior in appearance, are secondary in rank. The cathedral of St. Gudule, the largest and finest in Brussels, was founded in 1010; and here the first chapter of the chivalric order of the Golden Fleece was held by Philip le Bon, in 1435. There is an aspect of imposing grandeur in its spacious front, surmounted by two large square towers, from the top of which Antwerp is distinctly visible at a distance of 27 miles, and one contains a bell that weighs 14,500 lbs. Against the pillars which divide the lateral aisles from the nave, and support the lofty roof, are placed finely sculptured statues of the twelve apostles, 10 ft. in height, at an elevation of 25 ft. from the floor. The pulpit is formed of wonderfully carved groups of figures the size of life, representing the expulsion of Adam and Eve from paradise. The glass of the principal window displays a magnificent representation of the last judgment, by the celebrated Flemish painter, Francis Flors, and several other antique painted windows of this noble cathedral are exceedingly brilliant and beautiful. Its altars and sumptuous mausoleums of sculptured marble, and numerous fine paintings, are objects worthy of especial notice.

The cathedral of *Notre Dame de la Chapelle* is a beautiful Gothic structure, founded in 1134, and but little inferior in dimensions to that of St. Gudule. Its paintings and sepulchral monuments

are even more numerous. The interior ornaments of this fine cathedral consist of numerous paintings, statues, and monumental sculptures, by eminent artists; and a very curious carved palpit, representing Elijah fed by an angel under a canopy of palma. The church of *Notre Dame des Victoires* is a profusely ornamented Gothic structure of the 13th century, displaying the most exact symmetry in its plan and proportions. It is ornamented by marble statues and sculptured tombs: its windows are brilliantly painted; and the tones of its organ are exceedingly grand and harmonious. *Notre Dame de bon Secours*, built in the 17th century, is the best attended church in Brussels. Its handsome front façade is surmounted by a lofty dome, and the ornaments of the interior are exhibited to great advantage by the frequent performance of high mass with peculiar sacerdotal pageantry. St. Catherine and St. Nicholas are very irregular and uncouth Gothic edifices of the 12th century, adorned with numerous fine old paintings. The churches of Caudenberg, St. Augustine, and Notre Dame de Finisterre, are handsome specimens of the Grecian style, and were erected in the 17th century. A convent of Béguin nuns, called *Le Grand Béguinage*, built in 1657, at an expense of 332,000 florins, has a beautiful church, which contains many fine paintings. There were here formerly a thousand nuns: at present the number is greatly reduced. There are two other nunneries, the convent of Berlaumont, and that of *Les Sœurs Noires*—the Black Sisters. The Church of England service is performed in several Protestant chapels, for the accommodation of the numerous English residents; and the Jews, of whom there are 10,000 in the whole kingdom, have their general consistory in Brussels, and a handsome synagogue; but the great mass of the population are zealously attached to the rites and doctrines of the church of Rome, while their Lutheran king, Leopold, attends the Protestant service in his private chapel. Previous to the suppression of religious houses in Belgium by the French republican government, at the close of the last century, Brussels contained 31 monasteries, 2 convents of Béguines, 2 of English nuns, and 18 oratories; and during the middle ages, the extent and magnificence of the monastic establishments in this locality were truly amazing.

The two principal medical hospitals of St. Peter and St. John are admirably regulated. There is also a well-managed lying-in hospital, and a military hospital attached to the barracks. Nothing can exceed the care and cleanliness observed in every part of the hospital of St. Peter; indeed to this remarkable attention is attributed the fact that, in the calamitous year of cholera, not one case of that dreadful malady occurred in the wards of this establishment, amongst a miscellaneous assemblage of 600 patients. The hospital of St. John contains between 200 and 300 beds, and includes a community of the Sisters of Charity. The earnest piety and genuine benevolence which induce these and other exemplary females of the Catholic religious orders to go about doing good, by visiting the sick poor, especially in the hospitals, often excite the admiration of strangers who justly appreciate virtue and goodness, and convey a tacit reproach to the pious Protestant ladies of England. There is an excellent society for gratuitous vaccination, which is efficiently supported, and is very beneficial to the poor.

The civil and military prison of Brussels is an appropriate modern building, having 9 or 10 open courts. It is situated very healthily in the high SW. quarter of the city, and is under excellent management. The part for civil offences will con-

tain 500 prisoners. There are three public cemeteries outside the boulevards, adjacent to the gates of the Hal, Louvain, and Flanders. The English residents in Brussels have also two burial-grounds on the roads to Uccle and Louvain. The markets of Brussels amount to more than 20, and are all well and abundantly supplied. The principal corn-market, in the lower NW. quarter, forms one of the finest squares in the city. It is surrounded by handsome houses, and planted with double rows of lofty trees. Adjoining the fish-market, which is one of the best in the kingdom, is the market for poultry, in which are exhibited baskets full of the hinder legs, or *gigots*, of large frogs, neatly twisted and skewered up ready for dressing. Their appearance is bright and plump, and by no means so disagreeable as to increase the unfavourable prejudice of an English palate. Brussels is amply supplied with culinary vegetables from market-gardens. Game is rather plentiful, and poultry abundant. Fresh-water fish are cheap, sea-fish rather dear.

The climate of Brussels is temperate, moist, and extremely variable. The inhabitants of the upper town enjoy a warmer and drier atmosphere, and a greater exemption from diseases, than those of the lower town, from which the epidemics that occur most commonly arise. In general the city is healthy, and rarely visited by malignant or pestilential fevers. The air is genial and mild, and the sky often serenely blue. Refreshing breezes blow from the sea, but fogs not unfrequently descend in the morning and evening. The temperature of Brussels, compared with that of Paris, is colder in winter, and less warm in summer; compared with London, it is also colder in winter, but warmer in summer. The dry nature of the soil in the higher part reflects the sun's rays in summer, so as to render the heat extremely oppressive. In general, the weather is more damp and variable than in Paris, and less so than in London.

For the instruction of youth of both sexes in all departments of scholastic knowledge, and every elegant accomplishment, there are many excellent academical institutions, public and private. The modern collegiate establishment, called the Free University of Brussels, offers every desirable facility for prosecuting a complete course of study in science, language, and literature. Besides a magnificent library, it possesses a chemical laboratory; museums of natural history, mineralogy, geology, comparative anatomy; an anatomical theatre, and chambers for clinical practice. The Royal Atheneum is a highly useful and prosperous institution, established on liberal and rational principles, and kept in full operation by 15 professors and masters. The attention formerly devoted to the ancient languages, so as to engross exclusively the whole period of youth, is properly divided between ancient literature and the more important modern experimental sciences and industrial arts. In the former department there are usually from 150 to 200 pupils, and in the latter from 250 to 300. The hall for lecturing will hold 1,200 persons. There is a fine veterinary and agricultural college, with 150 students, a military school, and a school for instructing boys scientifically in the principles of commerce, and the operations of the mechanical arts. Several societies and establishments for the promotion of science and literature have a high and well merited reputation. The Royal Academy of Brussels was founded in 1769. The Geographical Establishment, in the Faubourg de Flandres, was founded in 1830, by M. Vander Maelen, an affluent and patriotic gentleman. On the boulevards, at the

E. angle of the city wall, is the Observatory, a neat and appropriate edifice, with two towers commanding an extensive horizon. Its site is 190 ft. above the level of the North Sea. This establishment is furnished with an apparatus of very superior philosophical instruments, and serves not only for the prosecution of astronomical and meteorological observations, but for the promotion of all the kindred mathematical and experimental sciences, especially that of horology. Near the Observatory, on the outer side of the city wall, is the Botanic Garden, which is generally allowed to be one of the finest in Europe. An institute of fine arts awards prizes to distinguished students of painting, engraving, sculpture, and architecture, and affords them the means of professionally visiting Rome, and the other celebrated schools and repositories of art. Prizes are also distributed by an academy of painting, sculpture, and architecture, which is numerously attended by students, whose productions form an annual exhibition. There is also a society of friends of the fine arts. A royal conservatory of music is attended by 400 pupils, many of whom become eminent performers; and infirm and aged musicians are assisted by an institution called the Society of Apollo.

For the promotion of mercantile and mechanical knowledge, there is a commercial society, and one for the encouragement of arts and industry. Two medical societies comprise very numerous bodies of learned physicians, and other distinguished men of science. In the old court, or Palace of the Fine Arts, is a museum of natural history, that surpasses in extent and value every other in the kingdom. The departments of zoology, ornithology, entomology, and mineralogy, are especially replete with rare and admirable specimens, including animals from the Dutch East Indian colonies, Russian minerals, and all the volcanic products of Mount Vesuvius. Another portion of the edifice contains the great public library of nearly 150,000 vols., and 15,000 historical MSS. and minerals. The latter were collected at a very early period, by the dukes of Burgundy, and are of extreme value; many being richly adorned with miniature paintings of exquisite beauty, by the early Flemish artists, and the greater part are splendidly bound in crimson Morocco. Above 2,000 vols. of the books were printed in the 15th century. The third division of the palace is occupied by a collection of about 500 paintings, by the great Flemish masters from Van Eyck to Rubens, and his numerous pupils. The library, museums, and gallery, are constantly open to the public. This spacious building serves also for public lectures, which are delivered gratuitously every day, by the most eminent professors, on geology, botany, chemistry, architecture, doctrine of chances, philosophy of history, history of the sciences, history of Belgium, general literature, hygiene, individual and public, and industrial mechanics. Besides the great literary treasures in the old palace, there is a national library possessing 60,000 vols., and 1,100 MSS.; and several of the public institutions have large and choice collections of scientific and literary works.

The manufactures of Brussels consist principally of its celebrated lace and tulle, and of carpets, fine linen, hosiery, printed cottons, hats, paper, soap, candles, chemical productions, painted porcelain, leather, fabrics of horse-hair, and caoutchouc, articles of iron, brass, gold, silver, bronze, and cut glass; clocks, lamps, mathematical, optical, and surgical instruments. The establishments are numerous and of the highest description for brewing beer, refining sugar and salt, cabinet-making, carriage-building, lithography, type-founding, and

printing and binding books. In addition to the commerce arising from its manufactures, and the consumption by the inhabitants, Brussels possesses an important transit trade, by means of its railways and two canals, consisting of all kinds of grain, coals, timber, iron, stones, lime, bricks, and various other products of the soil, and of foreign countries. Establishments connected with commercial operations are—the Commission Supérieure d'Industrie et de Commerce, Tribunal de Commerce, Chambre de Commerce, Société Générale pour favoriser l'Industrie, Société du Commerce de Bruxelles, six insurance companies, the Entrepôt, Royal Exchange, Custom House, and very commodious public rooms called the Brussels Lloyd's, where merchants meet for the transaction of business and perusal of the daily papers. There are two large annual fairs for the sale of all kinds of merchandise; one of 12 days, commencing May 22d; the other of 14 days, beginning the 18th Oct.

The municipal authority of Brussels is vested in a burgo-master and four sheriffs. They constitute the city regency, whose sanction must be obtained to all measures affecting the rights and interests of the citizens. The supreme court of law, and other national tribunals seated in the capital, are noticed in the article on Belgium.

Brussels is believed to have been founded in 600, and to have been walled in 1044. A code of municipal laws was formed in 1229, involving the principle of trial by jury. About 1300, sixty trades were incorporated in nine classes, to represent the citizens in all questions of taxation. Liberal notions of government continued to prevail, and the population and extent of the city were much increased. In the general persecution of the Jews during 1370–71, hundreds of that race were put to death in Brussels, and the amount of their confiscated property in the province of Brabant was nearly 18,000,000 florins. Under the Dukes of Burgundy, at the commencement of the 15th century, Brussels became a distinguished seat of learning and the arts, and was the residence of a magnificent court, which greatly promoted the progress of science, literature, commerce, and manufactures, especially the weaving of linens and woollens, and beautiful tapestry. In 1489, during the dominion of the House of Austria, the city was desolated by a dreadful plague, which destroyed 80,000 inhab., and produced a famine, whose effects lasted 4 years. Brussels was highly prosperous under the emperor Charles V., who often dwelt in its palace, and made it the scene of his final abdication in 1555. The intolerant and oppressive proceedings of Philip II. kindled that rebellion in the Low Countries which ended in the establishment of the independence of the United Province. In 1568, the martyrs of freedom, Counts Egmont and Horne, were beheaded in the Grand Place. Alva's violent exaction of exorbitant taxes at length excited a general revolt of the citizens, and after many changes and party contentions, and the loss, in 1578, of 27,000 inhab. by the plague, the Spanish governors, in 1598, gave up the place to the Austrian dynasty, under which the arts and sciences again revived and prospered.

Brussels, in 1695, was unsuccessfully besieged and bombarded by the French, under Marshal Villeroi, when 14 churches and convents were destroyed, with 4,000 houses. In 1706 the keys of the city were delivered to the Duke of Marlborough, and in 1746 it was again attacked by the French under Marshal Saxe, to whom it capitulated after a siege of three weeks. In 1794, after the storm of the French revolution had burst upon it, and Belgium was annexed to France, it became the chief town of the department of the Dyle. In

1803 Napoleon entered the city with great pomp, at the head of 10,000 troops, with a body guard of the citizens in splendid uniform. Twelve years afterwards, on his return from Elba, Brussels was the head-quarters of the British army, and sent forth the troops who, on the plains of Waterloo, put an end to the ambitious career of that extraordinary individual. From that period Brussels, conjointly with the Hague, was the capital of the kingdom of the Netherlands until the Belgic revolution of Sept. 1830, which made it the capital of Belgium.

BRÜTON, a town of England, co. Somerset, hund. and par. Bruton, on the Brue, 24 m. S. by E. Bristol, 120 m. W. London by road and 126 m. by Great Western railway. Pop. 2,232 in 1861. The town is well built, consisting principally of three streets, having a common centre, with a good market-house, where the sessions for the E. division of the co. are sometimes held. Here is a well-endowed hospital, founded by a native of the town, for the support of poor men and women, and for the support and education of a certain number of children. There are manufactures of silk, which employ some hundred people. Market, Saturday; fairs for cattle, 29th of April and 19th of Sept.

BUCHAREST, or BUKOREST, a city of Wallachia, of which it is the cap., being the residence of the hospodar, and of a Greek archbishop, on the Dambozira, over which there is here a bridge; 87 m. (direct dist.) from its confluence with the Danube, and 280 m. WNW. Constantinople; lat. 44° 26' 45" N.; long. 46° 47' E. Pop. estimated at 80,000. It is situated in a vast swampy plain, is divided into above 60 quarters, and though of comparatively recent origin, is not built according to any regular plan, and presents a curious display of barbarism and civilization in its mud cabins, brick houses covered with shingles, and spacious hotels; and in the vulgar finery of the boyars, or nobles, and the rags and filth of the other classes. It also presents a curious mixture of European and Oriental habits and costume; half the inhab. wearing hats and coats, and half calpacs and pelisses. Some of the streets are paved; but they are mostly boarded over, or rather covered with trunks of trees, or other large logs laid transversely, instead of a pavement; and, from the flatness of the ground, and the slovenliness of the inhab., all the filth of the streets collects under this rude floor. The streets are thence called *podzi*, or bridges, and, according to the testimony of a recent traveller, they 'are really bridges floating on rivers of filth. In winter this is continually splashing up through the interstices, and in summer it rises in clouds of black dust; and at all seasons is attended with a foul unwholesome odour, generating putrid fevers and the plague.' The palace of the hospodar, or prince, an immense old pile, and the metropolitan church, are in the largest square in the centre of the town. Near to them is the fire tower, 60 feet in height, whence a full view of the city is obtained. It has a vast number of churches, each with from 3 to 6 spires, or towers! It has also about 20 monasteries and convents, and 80 khans, or Oriental inns, with several hospitals, one of which, for the military, managed by German physicians, is said to be very well conducted; another hospital, founded in 1835, by a bequest left by Prince Brankovano, is also stated to be worthy of notice. There is a wooden theatre, where French plays and Italian operas are sometimes performed. The other principal buildings are a large bazaar, and the residences of the consuls, or ambassadors of the different European powers. Since 1834 improvements of

all kinds have begun to be set on foot, and efforts have been made to supply all classes, especially in the capital, with the means of education. In this view the college of St. Sauvain has been organised, which furnishes instruction to 500 pupils. The French language has been adopted as the basis of instruction, and the institution is under the direction of Frenchmen. In addition to this, four other schools have been opened in the city, where instruction is afforded gratuitously to all who choose to accept it. There is also a lyceum for the Greeks; and a public library, a society of belles lettres, and an agricultural society, have been established.

Formerly the boys used to ride on horseback; but about 50 years ago they adopted the practice of riding in carriages, and now would hardly cross to the opposite side of the street without using one of them. The number of carriages is estimated at 4,000. Bucharest is principally distinguished by profligacy of manners. Gambling-houses are most abundant; and prostitutes are said to be more numerous in it than in any other European city of the same size.

The trade of the town is very considerable. The exports consist of wool, butter, wheat, hides, yellow berries, tallow, honey, and wax, sent by the Danube, or by Varna, to Odessa, Constantinople, &c.: they also export immense herds of horned cattle and hogs to Germany, whence they import almost everything they have, from the cheapest necessities up to the most expensive luxuries. There are considerable numbers of German artisans, particularly of watchmakers and jewellers, in the town.

Bucharest was visited in 1847 by a tremendous fire, which destroyed several churches and khans, and a great many private houses. It has since been rebuilt on an improved plan.

The old cap. of Wallachia was Tergovest; but in 1698 the seat of government was transferred to the present city, then only a miserable village, belonging to a boyar, called Buchor, from whom it has taken its name. At the union of the two provinces of Moldavia and Wallachia into the semi-independent state—tributary to Turkey—of Roumania, Bucharest became the capital.

BUCKFASTLEIGH, a par. and town of England, co. Devon, hund. Stamborough, 172 m. SW. by W. London. Pop. of parish, 2,544 in 1861; area, 6,720 acres. It consists of one main street, on the line of the great western road from London to Plymouth; and of another, branching from it on the W. side down the incline, and called the Lower Town. Generally speaking, the houses are meanly built. The church is on an eminence overlooking the Dart, on the N. of the town in the meadows beneath which there are some remains of an ancient Cistercian abbey. The inhabitants are chiefly employed in wool-combing and weaving serges, for which there are three or four manufactories in the town. There is also a copper mine in the parish; and limestone is quarried and burnt in considerable quantities, for manure to the surrounding district. There are fairs held, for the sale of live stock, the third Thursday in June, and second Thursday in Sept. The weekly market has been long discontinued. There are the remains of an ancient encampment in the parish.

BUCKINGHAM, an inl. co. of England, having N. Northamptonshire, E. the cos. of Bedford, Hertford, and Middlesex, S. Berks, and W. Oxford. Shape very irregular; area 466,932 acres, of which about 440,000 are supposed to be arable, meadow, and pasture. The vale of Aylesbury, one of the richest tracts in the empire, occupies the middle of the co., and has, on either side, ranges of hills. It is about equally divided between tillage and pasture. The grass lands are partly used for the

dairy, and partly for fattening. Agriculture but indifferent: there is a great waste of horse power, and a proper rotation is not always observed. Sheep are an important stock, and the average weight of their fleece is supposed to have been increased, during the present century, from 3 to 5 lbs.; many hogs are also kept; and large quantities of ducks are raised at Aylesbury and other places. There are some large estates. Farms of a medium size average about 180 acres. Leases pretty common; but they are not granted for a sufficiently long term, and are defective in not laying any restrictions on the tenant as to cropping. Cottages generally good, and most of them have gardens. The manufacture of pillow lace has greatly declined; but a good deal of straw plat is made in the parts of the county next to Bedford. Minerals of no importance. The Thames bounds the co. on the S., and the Ouse partly intersects it, and partly bounds it on the N. It contains 8 hundreds, and 202 parishes. Pop. 167,993 in 1861, of whom 83,023 males, and 84,970 females; inhab. houses 34,909 in 1861. It returns 11 mems. to the H. of C., viz. 3 for the co., and 2 each for the boroughs of Aylesbury, Marlow, Buckingham, and Wycombe; registered electors for co. 5,637 in 1865. The gross estimated rental assessed to poor rate was 665,902 in 1862; the gross annual value of real property assessed to income tax amounted to 667,410*l.* in 1857, and to 765,516*l.* in 1862.

BUCKINGHAM, a par. and municipal bor. of Eng., co. Buckingham, hund. of same name, on the Ouse, 56 m. NW. London by road, and 61 m. by London and North Western railway. Pop. of municipal bor. 3,849, and of par. bor. 7,626 in 1861. Except on the N. side, the town is surrounded by the Ouse, over which there are three stone bridges. It consists chiefly of one long street, which is paved and lighted; houses of brick, and neatly built. The church, with a good tower and spire, was built in 1780, principally at the expense of the Temple family. It has a free grammar and green-coat school for 26 boys, and a national school for 300 boys and girls; two ancient hospitals supporting 6 green-coat and 10 blue-coat pensioners; and a few minor charitable benefactions. The weekly market is on Saturday, and there are ten annual fairs for cattle and sheep. A branch of the Grand Junction Canal extends to the town. No particular manufacture is carried on: in the neighbourhood are paper and corn-mills, and a few lime quarries. Under the Municipal Reform Act there are four aldermen and twelve councillors, and the limits of the borough, which were previously co-extensive with the par., are restricted to that portion of it on which the town stands, and which comprises about three-fourths of the pop. The town was incorporated by a charter in 1st of Mary, for services rendered by its inhab. in the Duke of Northumberland's rebellion; the corporation was a self-elected body, consisting of a bailiff and twelve chief burgesses, who, till the passing of the Reform Act, returned two mem. to the H. of C. The last-mentioned act not merely gave the suffrage to the 10*l.* householders of the bor., but included with them the 10*l.* householders of the par., and those of several of the adjoining parishes. Registered electors, 373 in 1861. There is a court of gen. sessions for the bor. held twice a year. It is the seat of the summer assize for the co. The gaol was built in 1758, by Lord Cobham, through whose influence the act for holding one of the assizes here was procured; both having previously been held at Aylesbury. The revenue of the corporation amounted to 972*l.* in 1861. Under the Poor Law Amendment Act it is the central town of a union of thirty parishes. Buckingham is a

polling town for the co. Till within a recent period, the manufacture of lace by hand furnished employment to many of the women and children. The ducal title of the Temple family is derived from the town.

BUDA (*Slov.* BUDIN; *Germ.* OFEN), a royal free city of Hungary, of which, in conjunction with Pesth, it is the cap. and seat of government, on the right bank of the Danube, immediately opposite to Pesth, 116 m. W. Debretzin; 135 m. ESE. Vienna by road, and 161 m. by South Austrian railway. Pop. 55,240 in 1857. The pop. of Pesth, at the same census, was 136,566; so that, if we regard them as one city, its pop., exclusive of the military, will be about 190,000. Buda is built on and round the last hill of a range which decreases in height as it approaches the Danube, and is divided into six quarters. The upper town, or citadel, occupies the centre and highest part of the city, the Schlossberg; it is enclosed by bastioned walls, but is no longer of any importance as a fortress. Although the smallest division, it contains most of the finest buildings. The royal castle, or palace, begun in 1749, is a quadrangular structure of great extent, containing 208 apartments, some of which, as the throne-room, audience-hall, and drawing-rooms, are extremely magnificent. In this building are kept the regalia of the kingdom, to which the Hungarians attach an extraordinary degree of importance. A large garden surrounds the palace, and the view from one of its balconies, elevated on a rock above the Danube, is very striking. The church of the Virgin's Ascension, and the garrison church, both Gothic edifices, the state's palace, high judicial chamber, town-hall, residence of the commandant, arsenal, post-office, and many other military and civil public buildings, are situated in this quarter. To the N., and at the base of the rock on which the citadel stands, is the lower, or 'Water town,' which in some parts vies with the former division in elegance. It contains the church of St. Anne, and several others. The *Landstrasse*, a well-built quarter; the new town, a cheerful suburb toward the E., reaching to the bank of the Danube; the Raizenstadt, or *Taban*, to the S., the most populous quarter of all; and the 'Christina town,' to the SW., extending into the rich and beautiful Christina valley, are the other divisions of Buda. The chief remaining buildings deserving notice are the churches of the Capuchins, the Elizabethan nuns of St. Florian, the Greek church, the synagogue, several monasteries and convents, the palace of the primate in the *Landstrasse*, with the palaces of Counts Sandor, Teleki, Erdöly, Zichy, Pechy, Batthyany, and other noblemen. A well appointed observatory, attached to the University of Pesth, stands on the Blocksberg, an adjacent hill, to the S., 300 ft. above the level of the river. Copious hot springs, strongly impregnated with sulphur, issue from the sides of the hills on which Buda is partly built, and especially from the Blocksberg. The successive occupiers of the place, Romans, Turks, and Christians, have taken advantage of these springs, and have converted them into commodious baths. Of those constructed by the Romans, only broken fragments now remain; but the Turkish baths are in a perfect state of preservation, and the largest, appropriated to the use of the town, is a fine specimen of Saracenic architecture. The finest of the modern baths, that of the 'Emperor,' in the vicinity of the *Landstrasse*, is surrounded by gardens and pleasure-grounds. These numerous hot baths have procured for the city its German name of *Ofen*, which is 'oven.' Among the many establishments devoted to science and education in Buda, are an archi-gymnasium

(high college), a high school in each of the different quarters of the city, a school of design, Illyrian female schools, a public library, cabinets of mineralogy and conchology. Many of the nobility, the Franciscan friars, and other bodies, possess good libraries, to which liberal access is permitted: in the royal palace there is a gallery of paintings. There are various charitable institutions, including four hospitals.

A magnificent suspension bridge, three quarters of a mile in length, spans the Danube, connecting Buda with Pesth. It was built at a cost of 700,000*fl.*, after the designs of an English architect, Mr. Clark, and was opened in 1848. The bridge, one of the finest of its kind in the world, has a clear waterway of 1,250 ft., the centre span or opening being 670 ft. The height of the suspension towers from the foundation is 200 ft., being founded in 50 ft. of water. The sectional area of the suspending chains is 520 square inches of wrought iron, and their total weight 1,300 tons. This is the first permanent bridge which has been erected over the Danube, below Vienna, since the time of Trajan. Its solidity was exposed to a severe trial very soon after its completion; for it was crossed on the 5th of January, 1849, and the immediately following days, by large divisions of Hungarian and Imperial troops.

The summit of the Blocksberg commands a fine view of the surrounding country, and especially of the river and the opposite city. A recent traveller describes it as follows:—'On this side is Buda, full of architectural anomalies, yet, from that very circumstance, an object of peculiar interest: on the other, Pesth, laid out in all the regularity of street, and square, and mall, and public garden. There is not a greater contrast between the old and new towns of Edinburgh than between Buda, the ancient capital of the Magyars, and Pesth, a city of yesterday's growth. The one wanders from terrace to terrace, in dark and dingy masses, or stretches in a long line wherever, between the river and the basis of the hill, a space of level ground can receive it: the other, a series of streets which cross each other at right angles, shines in all the splendour of a plan rigidly adhered to, and materials the best calculated to preserve an appearance of uniformity, even in separate edifices.' Add to this striking contrast the vastness of the river, the passing of barges, ships, and steam-packets, in the very centre, as it were, of Europe, and the scene and the associations connected with it must be admitted to be of no common kind.

Buda is the usual residence of the governor-general of the kingdom, the seat of the vice-regal council, and the highest administrative authorities. It has much less of a bustling and commercial character than Pesth. There are a few manufactures of linens, woollens, silks, velvet, leather, gunpowder, earthenware, and a cannon-foundry; but its principal trade is in its fine wines, of which about 230,000 cimers are produced annually from the vineyards around the heights in its neighbourhood.

Buda is believed by some writers to be either the *Curia* of Ptolemy, or the *Aquincum* of the Itinerary of Antoninus. It was held by the Romans till nearly the end of the 4th century. Attila made it occasionally his residence. Arpad, the Magyar chief, made it his head quarters in 900; and it then became the cradle of the Hungarian monarchy. It was enlarged and improved by succeeding Hungarian monarchs, and made a free city by Bela IV., in 1245. It was taken by the Turks, under Solymán the Magnificent, in 1526; but was recaptured by Ferdinand I., king of Bohemia, brother of the emperor Charles V.

in the following year. It was again taken by Solyman in 1529, and was held by the Turks till 1686, when it was taken by the Imperialists, after a desperate resistance. Joseph II. removed the seat of the Hungarian government thither in 1783. In 1810, the Taban quarter, and a part of the Water town, were destroyed by fire. The city suffered a great deal in the revolutionary war of 1849. A monument in honour of General Hentzi, and the troops under his command, who fell in this war, was erected in the 'Hentzi-square' in 1854.

BUDUKHSHAN, a prov. of Central Asia, now a dependency of the khan of Khoondooz, between lat. 36° and 38° N., and long. 70° $30'$ and 72° $30'$ E.; having N. and N.E. a chain of mountains, inhabited by tribes claiming a Macedonian origin; S.E. and S. the Bolor-Tagh mountains, and the high country of the Causians; and W. the other territories of Koondooz. It consists of the valley of the Koocha, a tributary of the Oxus, which rises at its S.E. corner, and soon becomes a considerable river, unfordable even at Budukshan (Fyzabad). The scenery of this country, and its natural productions, are spoken of in high terms by all who have visited it; it contains ruby mines, and cliffs of lapis lazuli. Near the Oxus the former are still worked by the khan of Koondooz, and the latter article, much of which was formerly sent into China, is obtained by lighting a fire under the cliffs, and, when hot, dashing cold water upon them, which causes them to fracture. The ruby mines were well known to the emperors of Delhi, and at a much earlier period: they are at a place called Gharan, on the verge of the Oxus; are dug in low hills; and the gems embedded in limestone like round pieces of pebble or flints. The inhabitants of Budukshan are Tad-jiks; very social and hospitable; speaking the Persian language, and retaining the manners and customs prevalent N. the Hindoo Koosh before the Tartar invasion. Neither Uzbeks nor Toorkees had settled in the country before the chief of Koondooz overran it, by whom its own chief was deposed; since which its peasantry have been driven out, and a rabble of lawless soldiery quartered in their stead. The capital is also called Budukshan, or Fyzabad, and is near the E. bank of the Koocha, in lat. 36° $28'$ N., long. 71° $28'$ E. It is said to have been peopled from Balkh, and most of the inhabitants are of the Shiak sect. This country suffered much from a terrific earthquake in January 1832, which appeared to exhibit its chief violence in this valley, and destroyed many roads and villages, and a great part of the population.

BUDWEIS, a town of Bohemia, cap. circle of the same name, on the r. bank of the Moldau, 75 m. S. Prague by road, and 159 m. NW. Vienna by railway. Pop. 14,811 in 1857. The town is well and regularly built, and partially fortified. Contains a cathedral, seven churches, a court of jurisdiction for the circle, gymnasium, philosophical academy, and diocesan seminary. Has manufactures of woollen cloth, muslin, damask, saltpetre, and musical instruments; and considerable trade in horses and corn.

BUENOS AYRES (*Good Air*), a marit. city of S. America, cap. of the Argentine confederation, on the SW. shore of the estuary of the great river La Plata, 125 m. W. by N. Montevideo, and 90 m. NW. Point Piedras; lat. 34° $36'$ $29''$ S., long. 58° $23'$ $34''$ W. Pop. estimated at 100,000; from 15,000 to 20,000 of whom are foreigners, chiefly English and French. The city is built upon a bank, from 15 to 20 ft. above the level of the river. Including its suburbs, it extends N. and S. for

upwards of 2 m., with a breadth in its centre of about $1\frac{1}{2}$ m. It is built on a uniform plan; the streets, which are all straight, intersect each other at right angles at every 150 yards, dividing it into a number of squares, each having an area of about 4 Eng. acres. The principal streets, which were formerly all but impassable in wet weather, while in the dry season they were obscured with clouds of dust, are now tolerably well paved, and provided with footpaths on either side. The houses and other buildings have also been greatly improved within the last few years, and their interior rendered much more comfortable; upper stories are now generally added to them; chimneys, that were formerly all but unknown, are common; they are supplied with English grates, and with coals carried out from Liverpool as ballast. Most sorts of European furniture have found their way into the residences of the upper classes. Almost every house in the principal streets has a garden both before and behind it; and many have latticed balconies in which odiferous shrubs are reared. Though on the edge of one of the greatest rivers in the world, water in Buenos Ayres is both scarce and dear. The wells, though numerous, afford nothing but hard, brackish water, unfit for culinary purposes. There are no public cisterns; rain-water is, indeed, carefully collected in a few private tanks; but the mass of the people have to pay high for their daily supply, which instead of being raised from the river by machinery, and conveyed in conduits to public pumps, is carried about in butts mounted on bullock-carts. The quarter of the city inhabited by *Mestizos* and negroes is wretched and filthy in appearance, and strongly contrasts with the opulence and taste displayed in the other parts. The *Plaza*, or great square, contains the cathedral, and the town-hall, a handsome stone edifice, built by the Jesuits; and a whole side of it is occupied by the *Recova*, a range of piazzas, 150 yards long, and above 20 in width, enclosing a double range of shops. In the centre of the square is a small obelisk, erected to commemorate the declaration of independence. The town-hall is chiefly used as a prison, but meetings of the municipality are sometimes held in the upper rooms; and from the balcony the citizens are harangued on public occasions. The cathedral, a large handsome edifice, with a cupola and porticos, has its interior profusely decorated with carving and gilding, and its dome painted in compartments, representing the Acts of the Apostles. The church of the Franciscans, and that of the convent of Mercy, are next in rank, and have steeples and cupolas nearly in the same style as the cathedral. In the former there is a painting of the Last Supper, well executed by a native Indian artist. There are many other Catholic churches, several convents and nunneries, a Protestant church, Presbyterian chapel, &c., a foundling hospital, orphan asylum, and other benevolent institutions. These edifices are all built of fine white stone, found in the plain not far from the city. The fort, which contains the residence of the supreme director and the government offices, is a square brick and stone building, near the river. The university, one of the most celebrated in S. America, occupies a very extensive building, which has been recently fitted up at a great expense: a suite of six rooms in this building contains the state library, a good collection of about 25,000 vols.

The estuary of the Plata is very broad, but is also in most parts shallow, encumbered with sandbanks, and infested with sudden gusts of wind called *pamperos*. Its navigation is consequently attended with a good deal of difficulty, and ships bound for Buenos Ayres generally take pilots on

board. There is no harbour, and vessels drawing 16 or 17 ft. water anchor in the outer roads, called the *Amarradero*, 7 or 8 m. from the shore, loading and unloading by means of lighters. This, too, is an operation by no means free from danger, boats being sometimes swamped in crossing the bar between the outer and inner roads. From the want of a pier, and the shallowness of the water on the beach, even the boats are not able to come close to the shore, but are met at a little distance from it by a rude sort of ox-carts, into which they deposit their goods, at no little risk, and sometimes much loss. These unfavourable circumstances operate as a drawback on the trade of the city, and tend proportionally to augment that of Montevideo, which is more easily accessible. But notwithstanding the competition of the latter, and the great increase of its trade of late years, Buenos Ayres is still the principal outlet for the produce of the vast countries traversed by the La Plata, and especially for the provinces situated on its right bank.

Within the last few years the trade in wool, in consequence of the great improvement effected in the breed of sheep, has become of considerable and rapidly increasing importance, the exports amounting, on the average, to above a million sterling per annum. The trade in hides, both dry and salted, is of equal importance, the exports being above a million in value per annum. Subjoined is an account of the quantities of the principal articles of produce exported from the port of Buenos Ayres during the year ended the 30th of June, 1862:—

	Valued at	£
454,303 salted ox hides	25s. each	567,878
1,217,771 dry "	20s. "	1,217,771
285,099 salted horse hides	8s. "	114,059
60,048 dry "	5s. "	15,012
11,593 pipes of tallow	£25 per pipe	231,860
8,767 boxes "	£16 per box	140,012
48,766 bales of wool	£25 per bale	1,219,150
3,046 " of horsehair	£50 "	152,300
8,951 " of sheepskins	£30 "	268,530
499,788 quintals of jerked beef	10s. per quint.	249,894
		£4,176,446

The total value of the imports averages 2,500,000*l.*, of which those furnished by Great Britain amount to near a half. The imports chiefly consist of cotton, linen, woollen and silk manufactures, hardware, cutlery, earthenware of all sorts, glass, leather, and hats. France supplies Buenos Ayres with jewellery, perfumery, and other articles of luxury; the imports from the U. States consist chiefly of coarse unbleached cloths, spirits, soap, sperm candles, dried and salted provisions, tobacco, furniture, and deals. The Mediterranean trade is principally in Sicilian and Spanish produce, particularly cheap wines, brandies, olive oil, maccaroni, dried fruits, and paper. Spanish goods are in little demand, though some serges, velvet, sewing silk, and snuff, are imported. The annual importation of Spanish and Sicilian wines is from 10,000 to 12,000 pipes, besides about 1,000 pipes of brandy. The *yerba maté*, or Paraguay tea, formerly an export article of some consequence, has now been nearly superseded, even in Buenos Ayres, by tea: the other Chinese imports are silks, crapes, nan-keens, porcelain, and numerous minor articles. The trade with Chili and Peru is insignificant. The markets of the city are well supplied with butchers' meat and fish. Poultry is dear, a couple of fowls selling for as much as an ox. Vegetables and fruit generally are also dear; milk in quality and price is much the same as in London, and all the butter used is imported.

The inhab. of Buenos Ayres said to be ob-

servant, intelligent, and desirous to improve. Education receives a considerable share of attention. Besides the university, a superior academy, and a military college, there are 10 public schools, for whose support the corporation contributes about 7,000 dollars annually, and 5 other schools, exclusively for the benefit of the poor, under the charge of different monasteries, and supplied with books and stationery at the public expense. It is rare to meet with a boy 10 or 12 years of age in the city who cannot read and write. There are several daily and weekly journals.

Buenos Ayres was founded by Don Pedro de Mendoza, in 1534, but, in consequence of the opposition of the Indians to the settlement, it was obliged to be abandoned at two subsequent periods, and was not permanently colonised till 1580, after some sharp actions with the natives. In 1620, the city was erected into a bishopric, and in 1700 contained 16,000 inhabitants. In 1776 it became the seat of the vice-royalty of La Plata; and in 1778, when the trade of the river was thrown open by Spain, its trade and consequence began rapidly to augment. In June 1806 it was taken by the British, but retaken by the Spanish in the same year. In 1810 the revolutionary movements began that ended in the emancipation of Buenos Ayres and the states of La Plata, from Old Spain. The declaration of independence appeared on the 9th of July, 1816, and by the terms of it a confederate republic was established under the name of 'the United Provinces of the Rio de la Plata.' In January 1831, a constitution creating the 'Argentine Confederation,' was promulgated, but on various modifications, tending to greater union, being introduced in it, the city and province of Buenos Ayres seceded in 1854. However, it again joined the Argentine Confederation in 1860, the opponents of the re-incorporation having been defeated in the course of a short civil war.

BUFFALO, a city of the U. S. of America, New York cap., co. Erie, at the W. extremity of Lake Erie, where it contracts into Niagara river, 298 m. NW. New York, and 22 m. S. Niagara falls. Pop. 25,611 in 1840, and 81,130 in 1860. The town stands partly on a low marshy tract, intersected by Buffalo creek, which forms its harbour, and partly on an elevated terrace, leading to a still higher plateau. The principal streets descend from the high ground over the terrace towards the creek and harbour, and are crossed by the others generally at right angles. According to Captain Marryat (*Diary in America*, 1839), 'Buffalo is one of the wonders of America.' It is hardly to be credited that such a beautiful city should have risen up in the wilderness in so short a period. In the year 1814 it was burnt down, being then only a village; only one house was left standing, and now it is a city with 25,000 inhab. It is remarkably well built; all the houses in the principal streets are lofty and substantial, and are either of brick or granite. The main street is wider, and the stores handsomer than the majority of those in New York. It has very fine churches (now 18 or 20), a handsome theatre, town-hall, and market; and 8 or 4 hotels, one of which is superior to most others in America; and to these we must add a fine stone pier, with a lighthouse, and a harbour full of shipping, and magnificent steam boats. It is almost incomprehensible that all this should have been accomplished since the year 1814. And what has occasioned this springing up of a city, in so short a time as to remind you of Aladdin's magic palace? The opening of the Erie canal, from Lake Erie to the Hudson river and New York, passing through

the centre of the most populous and fertile states. The city now is not dependent for its commerce on the canal, but is connected, by several lines of railway, with all the more important towns of the United States. It also contains a literary and scientific academy; a lyceum, having a library and chemical apparatus; and the university of W. New York.

Buffalo creek, formed by the confluence of several small streams, is navigable for about 8 m. A bar at its mouth has been dispersed, so as to admit vessels drawing 8 ft. water into the harbour; and a pier, 1,500 ft. in length, with a light-house upon it, has been carried out into the lake, to facilitate their ingress and egress. Still, however, the harbour is not accessible at all seasons, on account of the accumulation of ice brought down by the W. winds, and a ship canal has been cut from it to the lake W. of the town, which has done a good deal to obviate this inconvenience. From its position on the best channel of intercourse between the W. regions and the Atlantic, as well as its being the only port of entry for the Niagara district, Buffalo is a place of great and increasing trade. Subjoined is an account of the number of vessels owned in Buffalo, and their tonnage, in the year 1860:—

Craft	Number	Tonnage
Steamers . . .	13	10,266
Propellers . . .	57	33,255
Tugs . . .	32	2,774
Barques . . .	10	4,334
Brigs . . .	18	5,555
Schooners . . .	135	33,475
Total . . .	265	90,159

The number of vessels engaged in the navigation of the western lakes during the year 1860 was as follows:—

Craft	Number	Tonnage
Steamers . . .	138	69,150
Propellers . . .	197	61,550
Barques . . .	58	23,417
Brigs . . .	90	25,047
Schooners and Sloops	874	198,661
Total . . .	1,457	377,825

The chief trade of Buffalo consists in shipments of wheat and flour.

Buffalo was an inconsiderable place previously to 1812, in which year it was made a military station. Its destruction in 1814 was effected by a party of British and Indians; but in 1817, it again contained more than 100 houses, many of which were large and elegant. In 1832 it was incorporated as the 'City of Buffalo,' divided into five wards, and the government vested in a mayor and common council chosen annually by the citizens.

BUFFON, a small vil. of France, dép. Côte d'Or, on the Armançon, 12 m. N. Semur. This village belonged to the illustrious author of the *Histoire Naturelle*, Georges Louis Le-Clerc, created, by Louis XV., Count de Buffon, by which name he has since been distinguished.

BUG (an. *Hypanis* or *Bogus*), a river of European Russia. It rises near Bloysko, in the SW. corner of Volhynia, and pursues a SE. course past Bratzlaff, Oliwipol, Vosnesensk, and Nicolaeff. 25 m. below which it falls into the estuary of the Dniestr. It is navigable from Vosnesensk. The entrance to the Bug is without the bar of the Dniestr; happily, too, it has no bar of its own, and has deep water as far as Nicolaeff.

BUGIA or BOUJEIAH, a sea-port town of Africa, reg. Algiers, on the declivity of a mountain, at the mouth of the Aduse, 122 m. E. Algiers. The port, which is large, is formed by a projecting neck of land, great part of which was anciently faced with stone. There is good anchorage off the town in 8 or 10 fathoms, but NE. winds throw in a heavy sea. Previously to the French occupation, the town was protected by half ruinous walls, and by a castle on the summit of a hill, which also commanded the roadstead. The inhabs. manufacture ploughshares, mattocks, &c. of the iron obtained from the neighbouring mountains, and great quantities of oil and wax are brought down to this place by the Kabyles, for shipment. The town is built of, and stands upon, the ruins of a more considerable ancient city. It was bombarded by Sir Edward Spraggs, in 1671.

BUGUE (LE), a town of France, dép. Dordogne, cap. cant., a little above the confluence of the Vézère with the Dordogne, 16 m. WNW. Sarlat. Pop. 2,969 in 1861. The town is advantageously situated, well built, and carries on different branches of the woollen manufacture. It is also the entrepôt of the wines and other products of the surrounding cantons, which are shipped thence to Bordeaux, and has a considerable trade in cattle and hogs.

BUIS (LE), a town of France, dép. Drome, cap. cant., on the Ouvèze, 10 m. SE. Nions. Pop. 2,370 in 1861. The town is ill built, but has some fine promenades and a handsome square, surrounded by a double row of trees. It has some trade in wool, cloth, hats, olive oil, and jewellery.

BUJALANCE, a town of Spain, Andalusia, prov. Cordova, being 22 m. E. from the city of that name, and 7 m. from the Guadalquivir, on the railway from Cordova to Madrid. Pop. 8,917 in 1857. The town is well built, with broad streets, has two convents for either sex, two hospitals, a college, and a foundling hospital. It has some woollen fabrics, and a large fair which commences on the 26th of August. Though its modern name be of Arabic origin, it is believed that this town occupies the site of the *Calpurnia* of the Romans; and it has various inscriptions, and other antiquities of Roman origin.

BUKHUR, an island and fort in the Indus, 165 m. N. Hydrabad. The fort, which is constructed of brick, is about 400 yards from the left, and 350 from the right bank of the Indus. But it has no strength in its works, and is formidable only from its position.

BUKOWINE, a ci-devant province of the Austrian empire, now included in Galicia, which see.

BULGARIA (an. *Mæsia Inferior*), a large prov. of Turkey in Europe, included in the beglerbeglik of Roumelia; lying between lat. 42° 8' and 44° 10' N., and long. 29° 14' and 29° 36' E.; having N. Wallachia and Bessarabia, W. Servia, S. Roumelia, and E. the Black Sea. Length, NE. to SW., about 350 m.; breadth varying from 40 to 100 m. Area, estimated, from 30,000 to 34,000 sq. m. Pop. 3,000,000. The country is for the most part mountainous, and eminently so in the S., where the principal chain of the Balkhan mnts. forms its boundary: the Danube constitutes its N. limit; but excepting that river, Bulgaria possesses none of any magnitude, although sufficiently watered by small streams. Its climate is temperate, and its soil fertile and well adapted for the culture of corn, vines, the mulberry, and other fruit trees, and tobacco. There are but few marshes; the pastures are extensive and rich, and feed numerous herds of cattle: the higher lands are often covered with forests of pine, oak, and beech. The Bulg-

rians are descended from a Slavonic horde, formerly inhabiting the banks of the Wolga, who crossed the Danube and established themselves in this country in the 7th century, and have since gradually spread themselves over a large part of the region S. of the Balkhan. The present race have laid aside the military character of their ancestors; they are a pastoral people, living in small hamlets of about 40 or 50 houses each, and occupying themselves chiefly in agriculture and cattle-breeding, with some manufactures, as those of coarse woollen cloth, rifle-barrels, morocco leather, and attar of roses. Large gardens are devoted to the culture of roses; and we are indebted to the Bulgarians for the finest and most elegant of perfumes. The people are kind, hospitable, and benevolent. The women, who mix freely with the men, are handsome, industrious, and dress neatly: all wear trinkets; and the girls have their heads uncovered, and their hair braided and ornamented with different coins, as amongst the Albanians. The male peasantry dress in brown sheep-skin caps, jackets of undyed brown wool, which their wives spin and weave, white cloth trowsers, and sandals of raw leather, and carry no weapons of offence. They live in houses of wickerwork plastered, the interior being clean and comfortable. Their language is a dialect of the Servian. Ever since the 9th century their religion has been that of the Greek church; but they have few places of worship, and in those they have the service is performed in Greek, a tongue which they do not understand. Schools and books are equally rare with churches, and except the shop-keeper and priest of a village, scarcely any one can read or write; yet, notwithstanding this gross ignorance, crimes are singularly rare, and travellers in their country are not secure only, but experience the kindest treatment. Bulgaria is divided into four sandjaks, viz. those of Silistria, Rustchuk, Widin, and Sophia; its chief towns are Sophia the capital, Shumla, Silistria, Rustchuk, Nikopoli, Widin, and Varna.

BUNDLECUND, a large division of Hindostan, prov. Allahabad, between lat. $24^{\circ} 3'$ and $26^{\circ} 26'$ N., and long. $70^{\circ} 48'$ and $81^{\circ} 33'$ E.; having N. the Jumna: S. Berar and Malwah; E. Bogilcund; and W. Scindia's dom.: area 28,817 sq. m. Pop. 2,400,000. The country is mountainous, and imperfectly cultivated; the mountains belong to the Vindhyan chain, and run in parallel ranges through the distr., each successively buttressing a table-land; the country is naturally very strong, every hill being a natural fortress, and often crowned by an artificial one; but the highest summit is no more than 2,000 ft. above the level of the sea. The Cane, Desan, and Betwah, are the chief rivers, but none of them is of much importance; there are several artificial reservoirs or lakes, formed by masonry, erected across the currents of various streams for the purposes of irrigation. The soil is of every variety, from the rich black loam to the sterile conkar; the valleys and lowlands are generally of the former, and, when properly watered, yield abundant crops; the summits of the hills, although mostly rocky, are covered with small coppice-wood: the face of the country often presents detached pieces of jungle, but there are no forests, and a few scattered and stunted teak-trees form the only large timber. Bundlecund is celebrated for its diamond mines in the table-land of Pannah, where they are said to be found wherever the soil is gravelly. This soil is from 2 to 8 cubits deep, mostly very red, but elsewhere of a dark brown; it contains many small pebbles, with which the diamonds are found intermixed, but never adhering to any other stone or pebble. The workmen

lift up the gravelly earth; throw it into a shallow pit filled with water; and, after washing out the earth, examine the pebbles on a board. Much time is fruitlessly lost, but a very few diamonds found in the course of the year repay the workman, since he receives $\frac{1}{2}$ the value of those above the size of a filbert, $\frac{1}{4}$ the value of those as large as a pea, &c. Very few are now found worth more than 100l., and their profits are comparatively insignificant. The mines are the exclusive property of the rajah of Pannah; they are supposed to be identical with the Panassa of Ptolemy.

Bundlecund is now substantially British territory, though partly under native chiefs, who, since 1803, have retained the internal administration of their dom., on an acknowledgment of allegiance. Hindoo usages have been less affected here by foreign rule than in most other parts of India; the people generally are industrious, and obedient to the constituted authorities, though their chiefs are restless and turbulent. Their language is a dialect of the Sanacrit. They are usually possessed of but little personal property; there is little trade or capital stirring, and these circumstances, together with the bare and open character of the country, are probably the causes of *dacoity* or gang-robbery being so unusual. Atrocious crimes are rare; footpad robbery and *cozzanky*, or robbery on horseback, are the only serious offences, and these are most common on the skirts of Scindia's prov., whence small parties of Pindarries occasionally enter on ravaging excursions; burglary and theft are not common. The zemindars consider it highly disreputable to connive at such outrages, and frequently expel from their villages or estates persons of suspected character. The punchayet, or arbitration system, in the settlement of disputes, has been always very much resorted to here.

At the fall of the Delhi empire, the *Mahrattas*, under Ali Bahauder, possessed themselves of part of this prov., but were unable to establish their authority in the villages and hill fortresses. Bundlecund was occupied by the British troops in 1804, and erected into a magistracy under the Benares court of circuit. In 1817 that portion of it now belonging to the Bengal presid. was finally ceded by the Peishwa, to whom Ali Bahauder had been nominally subordinate.

BULSAUR, a sea-port town of Hindostan, presid. Bombay, on the Gulph of Cambay, 45 m. SW. Surat; lat. $20^{\circ} 36'$ N., long. $73^{\circ} 5'$ E. Its trade is considerable, chiefly in grain, jaggery, and timber; its manufactures are mostly coarse ginghams and other cloths. Rice and sugar-cane are cultivated in its vicinity.

BUNGAY, a town of England, N. border, co. Suffolk, hund. Waveney, on the Wangford, 98 m. NE. London by road, and 112½ m. by Gr. Eastern railway. Pop. 3,805 in 1861. The town consists of 2 par., having together an area of 2,090 acres. Having been almost wholly destroyed by fire in 1688, it is comparatively new, well laid out, and well built. The market-place, said to be the best in the co., has two fine crosses; and the town has also a neat theatre, and assembly rooms; a free grammar-school, with two exhib. to Emanuel College, Cambridge, and several other schools; the remains of a Benedictine nunnery: some manufactures of hemp; and a considerable trade in malt, corn, coal, flour, and lime. Here is also a large printing establishment. The trade of the town is promoted by the Waveney, being navigable thence to Yarmouth. Market, Thursday; fairs, 14th May, and 25th Sep.

BUNKER'S HILL, a steep hill 110 ft. in height, Massachusetts, U. States, in the centre of

the peninsula on which the town of Charlestown is built, and about 1 m. N. Boston. Here on the 17th June, 1775, was fought one of the earliest and most remarkable battles of the American revolutionary war. The provincial troops having established themselves on a portion of this height, during the night, a British force advanced to dislodge them; but though the latter ultimately effected their purpose, the resistance made by the Americans was such, that the British lost 1054 men killed and wounded, while the American loss was only 450, killed and wounded. In 1825 the erection of a granite obelisk, intended to be 220 ft. high, was commenced on the hill, in memory of the action; but in 1836 it was only one third finished.

BUNPOOR, a town or village of Beloochistan, cap. prov. Kohistan; 14 m. N. the Bushkurd mts.; lat. $22^{\circ} 47' N.$, long. $60^{\circ} 20' E.$ It is small, and ill-built; at one time it had been surrounded by a mud wall, but the whole is now gone to decay. The citadel of the chief, strong enough to resist any attacks from the Persians, is built on the summit of an extraordinary mound of earth, said by tradition to have been artificially raised by an immense army of Ghebers, who at a remote period passed this way. The neighbourhood of Bunpoor is desolate and impoverished, destitute of agriculture, and even of date-trees. The inhab. are the Rukhsanee Belooches, the leading tribe amongst the Nharooes; the language spoken at Bunpoor is Persian and Beloochee mixed.

BURDWAN (*Varthaman*, productive), a distr. of Hindostan, presid. and prov. Bengal; between lat. 22° and $24^{\circ} N.$, and long. $87^{\circ} 20'$ and $88^{\circ} 25'$; having N. Beerbhoom, E. Nuddea, S. Hooghly, and W. the Jungle Mehals distr.; area, 2,000 sq. m. Pop. estimated at 1,500,000. It is one of the most productive territories of India, and being environed by jungles N. and S., appears like a garden surrounded by a wilderness. The uncultivated are but 1-8th part of the extent of the cultivated lands: the chief articles of produce are indigo, sugar, cotton, tobacco, and mulberry-trees. A principal part of the wealth of Burdwan consists in its coal mines: the coal-field appears to be very extensive; the coal is of good quality, and preferred to any other at Calcutta. Several mines, about 180 m. from that city, are worked by an English company, which employ from 2,000 to 3,000 natives in mining, and 300 or 400 boats in conveying the coal to Calcutta, the mines being on the banks of a river connected with the Hooghly. Fine iron-ore is found in the neighbourhood of the coal, and a great deal of stone. Commerce has been greatly facilitated by the opening of the East Indian railway, the great iron highroad from Calcutta to the Northern provinces, which runs right through the district. There are, besides, good roads to Hooghly, Culna, and Cutwa; the zemindars are opulent, and many of them reside in the capital of the presid. The proportion of Mohammedans to Hindoos is about one to five. Burdwan became subject to the British, with the rest of Bengal, in 1760.

BURDWAN, a town of Hindostan, prov. Bengal, cap. of above district, and seat of a zillah court; 60 m. NNW. Calcutta, on the East Indian railway, which has a station here. Lat. $23^{\circ} 15' N.$, long. $87^{\circ} 57' E.$ Pop. about 54,000, 2-7ths of whom are Mohammedans. The Burdwan rajah has here a large palace, an English summer-house, and spacious gardens.

BURFORD, a par. and town of England, co. Oxford, hund. Hampton; 63 m. WNW. London. Pop. of town 1,485, and of parish 1,649 in 1861. The town is pleasantly situated by the small river

Windrush, but is very indifferently built. The church is partly in the Norman, partly in the later Gothic style, and has a very fine spire, surmounting a tower. The Baptists, Friends, and Wesleyans have chapels. There are almshouses for 16 poor widows; a free school, with an endowment producing 84*l.* a year, held in the town-hall, where, till 1636, the co. assizes were held. There is a weekly market on Saturday, and fairs held the last Saturday in April, and July 5th, for live stock and cheese. Saddlery was once a considerable branch of manufacture: there was also a large traffic in wool and corn; both have greatly declined; and the property of the town has been still further depreciated by the alteration in the line of road from Oxford to Cheltenham, which previously passed through and now avoids it. Edgehill, where Fairfax beat the royalists, is in the neighbourhood. The celebrated Wilmot, Earl of Rochester, was educated in its school. It gives the title of earl to the Duke of St. Albans.

BURG, a town of Prussia, prov. Saxony, reg. Magdeburg, on the Ille, 13 m. NE. Magdeburg, on the railway to Berlin. Pop. 15,120 in 1861. The town is walled, has three gates, four reformed churches, a grammar school, an hospital, and a workhouse. It is also the seat of a provincial council, a board of revenue, and a district court of justice. A very extensive woollen manufacture is carried on, and it has some dyeing establishments and snuff factories.

BURGOS, a city of Spain, cap. prov. same name, on the Arlançon, at the foot of a mountain, 134 m. N. Madrid, 59 m. SW. of Vittoria, on the railway from Madrid, across the Pyrenees, to Paris. Pop. 26,086 in 1857. The city is of an irregular shape; streets clean, and handsome, particularly that leading to the cathedral. It has a modern square, surrounded with a portico, supported by large columns, with houses upon a uniform plan, but small. There is a bronze statue of Charles III. The cathedral, a well-preserved chef-d'œuvre of Gothic elegance, is about 300 ft. in length, by above 250 in width. Its exterior is inferior to none in Spain; but the interior, though remarkable for the beauty of its workmanship, is inferior to the cathedrals of Toledo and Seville. Having been the cradle of the two most renowned captains of Spain, Ferdinand Gonzales, and the Cid Campeador, Burgos contains a triumphal arch in memory of the former, and a monument to the latter. There are three fine stone bridges over the Arlançon, in the space of half a league. Two of them communicate with the suburb of the city, on the opposite bank, called Vega, and the third, with the royal hospital, remarkable for its cleanliness and salubrity. There are some fine meadows on the banks of the river, and there also is the famous convent of Las Huelgas, whose abbess possessed almost royal privileges. Close to the city is the monastery of Miraflores, where John II. and his queen have magnificent tombs, and where also there are some paintings remarkable for their colouring. There are three military roads from Burgos, one to Oviedo and Gijon, another to Agreda, and a third to Santaña. The approaches to, and promenades of, the town are well ornamented with trees. Formerly the greater part of the wool exported from Spain used to pass through Burgos, and it still has some manufactures of leather, woollens, and hats, and two *lavaderas*, or washing pools for wool.

It is believed that Burgos did not exist in the time of the Romans, from its not being mentioned by Ptolemy nor any other ancient geographer; its want of any ancient monuments, and its being insulated and out of the line of the ancient mili-

tary road. Probably, its foundation cannot be carried farther back than the reign of Alphonso I.; it was Alphonso III. who ordered the castle to be built. It was formerly the residence of the counts of Castile, and many of the Castilian kings, and was then celebrated for its wealth and prosperity, and for its woollen manufactures and fairs. More recently, the opening of the great line of railway from Madrid to Paris—January, 1865—on which Burgos is a principal station, has again brought a fair share of prosperity to the city.

BURGUNDY, one of the old French provinces, now distributed among the depts. of Côte-d'Or, Saône et Loire, Yonne, Nièvre, Aube, Haute Marne, and Ain.

BURHAMPORE. See **BOORHAMPOOR**.

BURLINGTON, a town of the U.S. of America, Vermont cap., co. Chittenden, on a bay of the same name, a short distance S. of the entrance of the Union river into Lake Champlain, 86 m. WNW. Montpelier, and 100 m. S. Montreal. Lat. 44° 28' N.; long. 73° 15' W. Pop. 7,200 in 1860. Burlington is the chief commercial town of the State, and has a considerable trade with N. York, with which it is connected by railway. It contains a court-house, jail, bank, academy, and various places of public worship. The University of Vermont, established in 1791, is situated on an elevated spot E. of the town, and 1 m. from the lake. It was partly destroyed by fire in 1824; but has been rebuilt, and consists of three brick edifices, containing a chapel, 46 rooms for the students, a philosophical apparatus, and a library of above 12,000 vols. Its funds are chiefly derived from landed endowments.

BURNHAM, a par. and village of England, co. Bucks, hund. Burnham; 30 m. W. London. Pop. of parish, 2,233 in 1861; area, 4,110 acres. The village is a short distance from the Thames: its church is an ancient structure; and there is a national school. Fairs are held Feb. 23, May 1, and Oct. 2. Its ancient market has been long discontinued. Burnham is a place of great antiquity. The moated site of a palace of the kings of Mercia is still traceable. A nunnery, founded 1165, existed till the general suppression.

BURNLEY, a municipal borough of England, Lancashire, hund. Blackburn, par. Whalley, on the Burn, 180 m. NW. by N. London, 30 m. SE. by S. Lancaster, and 21 m. N. Manchester on the Midland railway. Pop. 6,378 in 1821; 10,699 in 1841; and 28,700 in 1861. Its name is derived from the river Burn or Brun, on which it is situated, which unites with the Calder immediately below the town. It stands in the middle of a narrow valley, and has been greatly improved and enlarged within the last forty years. It is mostly built of freestone, and is well paved, lighted, and abundantly supplied with water. There are four churches, the oldest of them St. Peter's, a former parochial chapel, built shortly after the Conquest, but replaced by a more recent structure, of different periods. It has in it the burial-place of the Towneley family, where, among other monuments, one has been erected to the memory of Charles Towneley, Esq., whose collection of marbles is in the British Museum. The Independents, Baptists, Wesleyan and Primitive Methodists, and Rom. Catholics have places of worship. A grammar-school was founded in 1578, to which the sons of tradesmen and others are admitted on paying a fee of 2l. 2s. a year, the fee paid by the sons of the higher classes being 3l. 3s. There are several other schools, and numerous charitable endowments and institutions. The borough is a station for receiving votes at the election of members for the N. division of the co. The woollen manu-

facture, which was once carried on extensively, and which still exists here, has been nearly superseded by that of cotton, which is carried on upon a great scale in the town and neighbourhood. The articles produced are principally common printed calicoes. There are also extensive bleaching and printing works, with iron and brass foundries, machine manufactories, breweries, tanneries, and rope-walks. The town is mainly indebted for its rapid growth and progress in manufactures to the abundance and cheapness of the coal found in its immediate vicinity, or rather directly below it; for here, as at Whitehaven and some other places, parts of the town have sunk, from the roof of the coal mines not being properly supported. It is also well supplied with freestone, slate, &c. It has an easy communication with the surrounding districts by means of several lines of railway, as well as the Liverpool and Leeds canal, by which it is nearly encircled. Markets are held on Monday for corn, and on Saturday for general purposes: fairs on March 6, Easter eve, May 9 and 13, July 10, and Oct. 11; also for cattle on alternate Mondays, for woollens on the second Thursday in July, and for horses on the third Thursday in Oct.

BURNTISLAND, a royal burgh and sea-port town of Scotland, co. Fife, on the N. shore of the Frith of Forth, 5½ m. N. Granton on the Edinburgh-Perth railway. Pop. 1,859 in 1841, and 3,143 in 1861. The town is clean and well-built, having a main street running nearly at right angles with the harbour, and some subordinate streets. It has a town-house, a parish church, a Presbyterian dissenting chapel, and a good school-house. Its harbour, though the best on the N. side of the Forth, nearly dries at low water; but this serious defect has been to a considerable extent obviated by the extension of the piers into deep water, so that railway passengers and others arrive and depart at any time of the tide. The harbour revenue amounted to 1,127l. in 1863-4. Burntisland is much resorted to in summer by sea-bathers. It has long formed one of the principal stations for the landing and embarkation of passengers crossing the Frith of Forth. Burntisland unites with Kinghorn, Dysart, and Kirkcaldy, in sending a mem. to the H. of C.; parl. constituency 133 in 1863. Annual value of real property 10,559l. in 1863-4. Corporation revenue 578l. in 1863-4. The burgh is governed by a provost and twelve councillors.

In 1601, the General Assembly met at Burntisland, when James V. renewed his vows as a covenanter. The existing quays were built by Cromwell.

BURSA, **BRUSA**, or **PRUSA** (an. *Prusa ad Olympum*), a city of Turkey in Asia, Natolia, cap. Sanjack, 62 m. S. Constantinople, lat. 40° 9' 30" N., long. 29° 4' 45" E. Pop. estimated at 60,000. It is beautifully situated, at the extremity of a fertile, well-watered and well-wooded plain, on the lower acclivities of Mount Olympus. Including the suburbs, which are more extensive than the city properly so called, it extends 2 m. from E. to W. and ½ m. from N. to S. It is not well built; the houses being principally of wood, on the model of those of Constantinople, and, therefore, very subject to fires; and the streets are, for the most part, narrow. However, it is one of the cleanest of the cities of Turkey; for a great number of streams that have their source in the upper parts of the mountain flow down several of the streets, and supply almost every house with a fountain. The castle, on a perpendicular rock near the centre of the town, most probably occupies the site of the acropolis of

the ancient Prusa. Within its walls is a mosque, formerly a Greek church, in which are the tombs of Sultan Orchan, his wife, and children. The chief ornaments of the city are its mosques, which are exceedingly numerous. The most magnificent are those of the sultans Achmet and Osman, and the Oolah, or great mosque, in the centre of the city. The warm baths of Brusa are famous all over the East: the principal is that of Kaplutch Hamman, about 1½ m. NW. from the city. The heat of the water, which is slightly impregnated with sulphur, does not exceed 100° Fah. The water is received into a fine building, where there is every accommodation for bathers of both sexes. The *besestein*, a large building with shops and warehouses, and the bazaars, which are extensive, are well supplied with merchandise, particularly with raw silk and silk stuffs. Great quantities of silk are produced in the adjacent plains; and very excellent silk and silk and cotton stuffs are manufactured in the city, and furnish, with raw silk, carpets, and velvets, the principal articles of export. The khans and colleges, or medreses, of Brusa are numerous; and may vie with those of any other city of the Ottoman dominions. Altogether, considering the fertility of the surrounding country, the beauty of the situation, and its comparative cleanness, it is one of the most agreeable of Turkish cities.

Prusa was founded by Prusias, the protector of Hannibal, and was long the cap. of Bithynia. Little of it is known till after it came into the possession of the Romans, though it was always famous for its baths, and admired for the beauty of its situation. It was one of the most considerable cities of the Greek empire. It was taken by Orchan, son of Othman, the founder of the Othman dynasty, in 1356, and became the seat of the Turkish power and the ordinary residence of the sultans till Amurath removed the seat of government to Adrianople.

BURSLEM, a market town and par. of England, co. Stafford, N. division of Pirehill hund, 2½ m. NW. Newcastle-under-Line, 19 N. Stafford, and 1604½ m. NW. London, by London and North Western and Trent Valley railway. Pop. of town 17,821, and of parish 22,327 in 1861. Burslem stands on a gentle eminence, near the Trent and Mersey canal, and is the principal town in that important district called the Potteries, the principal seat of the earthenware manufacture. It contains many well arranged manufactories, neat and convenient dwelling-houses for the workmen and overlookers or superintendants of works, and some handsome houses for the proprietors. Its principal buildings are, a neat market-house or town-hall, an edifice of modern erection nearly in the centre of the town: the old church, dedicated to St. Peter, built of brick, with a stone tower of much greater antiquity than the body; and a district church, erected in 1828. Burslem was originally a chapelry in the parish of Stoke, but was formed into a separate parish by act of parliament, in 1807. It has a police force under the provisions of a local act. There are places of worship for Baptists, Independents, Primitive, Wesleyan, and New Connection Methodists, and Roman Catholics, all of which, as well as the churches, have Sunday-schools attached to them. There is also a national school, and a free grammar-school. At a very early period Burslem was distinguished for its clay, and for its manufacture of earthenware and pottery, for which, in the 17th century, it was the principal place in the kingdom. The greater part of the inhabitants are engaged in the potteries, and in the earthenware manufacture, which has been brought to a high

state of beauty and excellence. In Domesday Book this town is written Barcardeslim.

BURTON-ON-TRENT, a market town and par. of England, partly in the N. division of Offlow hund., co., Stafford, and partly in the hund. of Repton and Gresley, co. Derby, 22 m. E. Stafford, and 128 m. NNW. London by the Midland railway. Pop. of town 13,671, and of parish 16,824 in 1861. The town is situated in a fertile vale on the N. bank of the Trent, and consists chiefly of one long street running from the place where the abbey stood to the bridge, and of another intersecting it at right angles. The town-hall, erected at the expense of the Marquis of Anglesea (the lord of the manor), who owns the greater part of the property in the neighbourhood, is a handsome building, and contains, in addition to the usual offices for transacting public business, an elegant suite of assembly-rooms. The old church, dedicated to St. Mary and St. Modwen, formerly connected by a cloister, with the abbey founded in 1004, was rebuilt in 1722. The new church, erected in 1823, in the Gothic style, is a handsome edifice. But the most celebrated structure of the town is the ancient bridge over the river, erected prior to the conquest, and substantially repaired in the reign of Henry II. It has 37 arches, and is 1,545 ft. in length and was about fifty years ago considered the longest bridge in England. The government of the town is vested in a high and low steward, and a bailiff, appointed by the lord of the manor. The bailiff is also justice of peace and coroner. The inhabitants, by virtue of the letters patent granted in the 11th of Henry VIII., are exempt from serving the office of sheriff, and from being summoned as jurors at the assizes and sessions for the co. There are various places of worship for Independents, Wesleyan Methodists, and General and Particular Baptists. There are also Sunday-schools, attached to the different churches and chapels; a national school, and a free grammar-school, founded and endowed in 1520 by the then abbot, William Beane. In the time of Leland, Burton was famous for its alabaster works, but how long they were continued is not known. The principal manufacture carried on at present is that of its justly famous ale. Contrary to general usage, the brewers prefer in its preparation hard water to soft; and though the Trent runs close by, they use that water only which they obtain from their pumps. Burton has also fabrics of hats, cotton, tammies, and light woollen stuffs; with iron furnaces and manufactories of tools; two or three rope-walks, tanneries, and cotton mills, The Trent and Mersey canal (or Grand Trunk) passes Burton, and unites with the Trent about 1 m. lower down; and the Trent itself, which falls into the Humber, is navigable for vessels of some burden from Gainsbro' up to the town. The old abbey, a once magnificent pile, of which now scarcely a vestige remains, enjoyed many privileges: the abbots occasionally sat in parliament. Burton suffered greatly during the civil commotions in the reign of Charles I., and was several times taken and retaken by the contending parties.

BURTSCHIED, or BORCETTE, a town of the Prussian states, prov. Rhine, reg. Aix-la-Chapelle, of which city it is almost a suburb. Pop. 7,301 in 1861. The town has broad streets, good houses and promenades; There are important manufactures of cloth: cassimeres, and needles. The last, which is conducted on a large scale, employing, with the needle manufacture in Aix-la-Chapelle, nearly 1,000 workpeople, is principally carried on by Protestants driven from Aix-la-Chapelle. The place has several hot springs; they, however, differ

essentially from the springs of the neighbouring city, and resemble those of Wiesbaden.

BURY, a par., parl. bor., and town of England, co. Lancaster, div. Bolton, hunds. Salford and Blackburn, 8 m. NNW. Manchester, and 196 m. NNW. London, by London and North-Western railway. Pop. of parl. borough 37,563, and of parish, 80,558 in 1861. Bury is situated on the left bank of the Irwell, 2 m. above its confluence with the Roch. The general appearance of the town has been greatly improved of late years, by widening the streets and approaches, and the erection of handsome modern structures. The parish church is a large handsome structure, rebuilt in 1773; there are 4 other churches, and about 20 dissenting places of worship. A free-school, founded in 1726, has 2 exhibitions, either to St. John's Coll., Cambridge, or Brazenose Coll., Oxford. Another school, founded in 1748, for 80 boys and 80 girls, has been changed to a national school, and a spacious school-room has been built for it. Here is, also, a dispensary, a public library, a mechanics' institute, several public news-rooms, and a horticultural society. The weekly market is held on Saturday; and three fairs on March 5, May 3, Sept. 18. The manufactures are annually increasing in amount and value. The principal branches consist of cotton and woollen spinning and weaving, both by hand power-looms; with calico-printing, bleaching, and machine-making. There are above 10,000 hands employed in these manufactories, independently of those employed in other occupations, and in coal-mines, which latter give work to about a thousand men. The amount assessed to property tax was 113,438*l.* in 1857, and 131,272*l.* in 1862. Bury communicates both by canals and railways with Manchester, Bolton, and other towns in the vicinity. It is the head of a poor-law union, comprising 12 parishes and townships. The gross sum assessed to poor rate was 112,884*l.* in 1862, and the net rateable value 91,217*l.* Three courts-leet for the manor are held annually, in April, Whitsuntide, and Oct.: their jurisdiction is co-extensive with the parish. The Reform Act conferred on Bury the privilege of returning 1 mem. to the H. of C. It had 1,260 registered electors in 1862, being all 10*l.* householders.

The parish extends over 22,600 acres. Besides that of Bury, it comprises 4 townships, and 3 chapelrys. The greater part is a stiff loam, varying in fertility; a small portion only is under the plough. It contains good quarries of building stone, and those of Horncleft produce excellent flags and slates. There are a dozen coal-mines wrought, so that the factories and inhab. have an abundant supply of fuel within the limits of their own parish. The first distinct notice that occurs of the manufactures of Bury is in Leland's Itinerary, in the reign of Henry VIII.; they were then exclusively of woollen, which is still carried on to some extent. In 1738, John Kay a native of Bury (though at the time residing in Colchester) invented the fly-shuttle; and in 1760, Robert, a son of the former, the drop-box, by which patterns of various colours are woven nearly with the same facility as plain calico; the setting of cards by machinery also originated in the same family, and in Bury. In 1791, Henry Whitehead, the post-master of Bury, suggested the mode of piecing the ends of broken yarns, in spinning, without stopping the machinery, as had previously been necessary. But the circumstance which chiefly contributed to bring Bury into repute, as the seat of any peculiar branch of the cotton manufacture was the establishment of large print-works by a firm, of which Sir Robert Peel, the first bart., was at the head:

the perfection to which calico-printing was there brought, not only enriched the parties, but added largely to the wealth and importance of the town. This establishment, with its numerous workshops, warehouses, and dwellings, is still in full activity; as are also the large manufactories of the same company on other streams, notwithstanding the many changes that have taken place in their ownership. Sir Robert Peel, the celebrated statesman, was born at Chamber Hall, in the immediate vicinity of the town; a large statue to his memory was erected in the market place soon after his death.

BURY ST. EDMUND'S, a par. bor. and town of England, co. Suffolk, hund. Thingoe, 60 m. NE. London by road, and 86½ m. by Great Eastern railway. Pop. 12,538 in 1841, and 13,318 in 1861. The town is situated on a gentle eminence, on the W. side of the Larke, amidst a richly cultivated, diluvial district. Streets broad, well paved, and lighted; houses mostly uniform and well built; the whole town has a cheerful, neat appearance. St. Mary's church (finished in 1433) is a fine Gothic structure, with a low Norman tower. St. James's church, finished after the Reformation is a handsome building. Its belfry, at some little distance, was originally the grand entrance into the burial-ground of the old monastery: it is of a quadrangular shape, 80 ft. in height, remarkable for strength and simplicity, and forms one of the finest extant relics of Saxon architecture. There are two Independent chapels; and the Catholics, Friends, Baptists, Methodists, and Unitarians have each a place of worship. There is an ancient guildhall, in which the bor. courts are held; a shire-hall for the assize courts; a county gaol, on a radiating plan, built in 1805; and a bridewell, shaped out of an ancient Norman building. The free grammar-school (founded by Edward VI.) has six exhibitions to either of the universities, a scholarship in Corpus Christi, and another in Jesus College, Cambridge: it educates 100 boys. It has also a charity school for forty boys; two others where 50 girls are clothed and instructed; and National, Lancastrian, and other schools. There are 98 almshouses, endowed by various benefactors, and under the management of trustees, who have about 2,000*l.* a year in their hands for various charitable purposes. Clapton's Hospital supports six widowers and six widows, decayed housekeepers; the General Hospital accommodates forty patients. Here is also a theatre, with concert, assembly, and billiard rooms; a good subscription library, a mechanics' institute, and botanical gardens, supported by subscription. Weekly markets are held, one on Wednesdays for corn, the other on Saturdays for general provisions. Annual fairs are held on Easter Tuesday; St. Matthew's day, a pleasure fair which used to be attended by all the surrounding nobility and gentry; a fair, Oct. 1., for horses, cattle, butter, and cheese; a great fair, commencing Oct. 10, and lasting about three weeks; and Dec. 1. About a mile from the town the Larke becomes navigable to Lynn for barges, whence coals and other commodities are brought. Spinning yarn was formerly a great source of employment to the poor of the town, but at present it has no manufactures.

The bor. is co-extensive with the two parishes of St. James and St. Mary, the area being 3,040 acres; it is divided into two wards, and governed by a mayor, six aldermen, and eighteen councillors. Petty sessions for the bor. are held every Thursday; and courts of general sessions thrice a year, in Feb., June, and Nov. The quarter sessions and assizes for the co. are also held in the town.

The property of the corp. consists of lands and houses in the bor., the livings and tithes of both parishes, and the tolls of the markets and fairs: borough income, 8,392*l.* in 1861. The amount assessed to property-tax was 52,741*l.* in 1861; and the gross rental assessed to poor-rate, 43,475*l.* The bor. has returned two members to the H. of C. since the 12th of James I. Previously to the Reform Act, the right of election was in an alderman and thirty-six burgesses; the former had a casting vote, and was returning officer; it was, in fact, a nomination bor., in the hands of two peers of opposite political principles. The constituency consisted of 719 registered electors in 1861, mostly occupiers of 10*l.* houses.

A monastery was founded here in 638, to which, in 903, the body of St. Edmund, the Saxon king, was transferred; hence the name. Canute expelled the secular monks, and transferred thither a convent of Benedictines, from Norfolk; his, and other subsequent endowments, made this abbey inferior only to that of Glastonbury; it possessed the franchises of many separate hunds., and the right of coinage; its abbot sat in parliament, and had power to inflict capital punishment, and determine all civil suits within the liberty. The abbey gateway and bridge, and portions of the walls, still remain. There were a few other establishments, of minor importance, in the town previous to the general suppression. Sir Nicholas Bacon, bishops Gardiner and Prettyman, and Dr. Blomfield (the late bishop of London) were born in the town. It confers the title of viscount on the Keppel family. Ickworth, the magnificent seat of the marquis of Bristol, is within 3 m. of the town.

BUSACO, a convent of Portugal, prov. Beira, on the ridge called the Sierra Busaco, 17 m. N. by E. Coimbra. Here, on the 27th September 1810, a French army of 65,000 men, under Marshal Massena, were repulsed with great loss in an attack on the position occupied by the Anglo-Portuguese army, about 40,000 strong, under the Duke of Wellington. But, though unable to force this position, Massena succeeded in turning it, when the allies retreated upon the lines at Torres Vedras.

BUSHIRE (more properly ABOUSHEHR, or ABUSHAHR, Arab. *the father of cities*), a seaport town of Persia, prov. Fars, and, excepting Bussorah, the principal port of the Persian Gulf, on the N.E. coast of which it is situated; 120 m. WSW. Shiraz, and 255 m. S. by W. Isfahan; lat. 29° N., long. 50° 48' E. Pop. variously estimated at from 8,000 to 15,000. It is built at the N. extremity of a low sandy peninsula, about 11 m. in length, by 4 m. in breadth at its widest part, on its E. side enclosing a deep bay or harbour. The town is thus surrounded on all sides by water, except towards the S. where a mud wall about $\frac{1}{2}$ m. in length, has been built across the isthmus between the bay and the sea. Viewed from the sea, it has rather a handsome appearance. It is, however, a mean place, without movement of any kind. The houses are built chiefly of a friable stone, composed of sand and shells imbedded in clay, and the best of them are constructed of burnt bricks brought from Bussorah; but excepting the Indian factory, the residence of the governor, and a few good dwellings of the merchants, there is scarcely one comfortable, and certainly not one handsome edifice in the place. Some of the principal houses have *bauddgeers*, that is, wind-catchers, or spires of a square form, open at each side; and which, acting as a funnel, and admitting the air from every quarter, ventilate and cool the houses. The streets are so many narrow unpaved alleys, without order

or regularity, or sufficient height of wall on either side to shelter the passenger from the sun. The mosques are all open buildings, and inferior to those seen in the smallest villages of Arabia; there are but few coffee-houses, and the solitary bath is small, filthy, and badly attended. Water is excessively bad; that fit for drinking having to be brought in goat-skins a distance of 16 m. In dry and windy weather, the dust and flies constitute an almost intolerable nuisance. On the SW. side of the town, facing the outer road, the beach, which is level and sandy, is beat by an almost constant surf, though not so violently as to prevent the landing of boats in moderate weather. The NE. side, facing the inner harbour, has a wharf or two for landing goods, and is better sheltered. Owing to the numerous sand-banks, the inner harbour is not always easily accessible even for boats; but it is always preferred as the safest and best landing-place. Ships of more than 300 tons burden lie in the outer roads 6 m. from the town, where there is good anchorage, subject, however, to all the fury of violent NW. and SW. winds, which are very prevalent, often obliging ships to part their cables. Ships of 300 tons burden may anchor in the inner roads to the N. of the town, but still 6 m. distant. By reason of a bar, the inner harbour is only accessible at high water springs, to ships drawing 18 ft., and at other times to vessels drawing 8 or 9 ft. The water immediately to the E. of Bushire is deep; and it appears from the older descriptions of the place, that cruisers were formerly able to anchor close up to the NE. side of the town; but the channel leading up to this will now scarcely admit of small dows, except they be lightened. Some islands in the NE. part of the bay give sufficient shelter to native boats and other small craft.

Bushire is the principal entrepôt for the supply of Persia with Indian goods. It has a considerable trade with Bombay and Calcutta, especially the former; and through them receives most of the goods brought to it from Europe, China, and the E. Archipelago. Few ships touch at Bushire without also touching at Bussorah, and conversely. The imports from Bengal are rice, sugar, indigo, pepper, and spices, with a small assortment of muslin and piece-goods. From Bombay are brought iron, steel, tin, lead, woollen cloths, and cutlery, with sugar, sugar-candy, preserved ginger, porcelain, &c., the produce of China, and cassia, cloves, nutmegs, and other productions of the E. Archipelago. The demand for English cotton prints is said to be increasing in Persia, while that for the fabrics of Germany and Switzerland is diminishing. Coffee is supplied from Mocha and other Arabian ports, but to no great amount, as it is not in very general use in Persia. The returns to India are mostly in horses for cavalry service, dates, and dried fruits, asafoetida, carpets, Cashmere and Kerman shawls, Kerman wool, tobacco, old copper, turquoises, attar of roses, and rose-water, but chiefly in money. The other exports of Bushire are raw silk and silk goods, Shiraz wine, grain, gall-nuts, pearls, yellow-dye berries, and various drugs. The Russian provinces on the Caspian derive their supplies of indigo from Persia by way of Bushire. The trade of the port is crippled by the imposts laid on goods passing to the capital, and the unjust and injudicious appropriation of goods on the part of the government. Formerly it was much injured by the pirates: but, owing to British interference, these are now all but suppressed.

The merchants of Bushire are about equally divided between Persians and Armenians; the latter are the more active, intelligent, and wealthy.

There are no Jews of any note, as at Bussorah; nor Banians, as at Muscat. The pop. generally is a mixture of the Persian and Arab races.

BUSSORAH, called also BALSORA, BASRA, and BUSSRA (Arab. *a margin*), a city of Turkey in Asia, pash. Bagdad, the most E. place of note in the Turkish dom., and the principal port of the Persian Gulf, on the right or SW. bank of the Euphrates, or, as it is here called, the Shat-ul-Arab (*river of the Arabs*), 70 m. from its mouth, and 45 m. below its junction with the Tigris, 270 m. SE. Bagdad, and 220 m. WNW. Bushire: lat. 30° 29' 30" N., long. 47° 34' 15" E. Pop. estimated at 25,000. The form of the city is an irregular oblong, lying ENE. to WSW., or at right angles with the course of the river, from which it is a few hundred yards distant. Length about 3 m., breadth opposite the river about 1 m.; circuit estimated at from 7 to 9 m. The space actually occupied by buildings does not, however, comprise above a fourth part of this area, the rest being laid out in corn-fields, rice-grounds, date-groves, and gardens, intersected by a number of little canals. Bussorah is surrounded by walls, built of sun-dried bricks, with a parapet at the top, having loopholes for musketry, and occasional ports for cannon, but of these very few are mounted: it has five gates, and is divided into 70 *mahalle*, or quarters. Two canals, cut from the river, surround the city on either side, within a few yards of the walls, and uniting beyond the W. wall, form a complete ditch to the fortifications. A third canal leaves the river nearly midway between the other two, and is carried through the whole length of the city, serving at once to supply the inhab. with water for domestic purposes, to irrigate the fields and gardens within the walls, and to admit of the transportation of goods. These canals are filled by the flood, which usually rises 9 ft., and left nearly dry at ebb-tide. They are mere channels dug out of the soil, without being lined by masonry; and the few brick-built bridges thrown over them in different parts of the city are of the meanest kind. Bussorah is wretchedly built; the streets are narrow and unpaved; and, notwithstanding the facilities afforded by the ebb and flow of the tide in the canals for the removal of impurities, it is most disgustingly filthy. No stone of any kind, and scarcely any wood, excepting that of the date-tree, which is very unfit for carpentry, are found within many miles of the city, which is mostly constructed of sun-dried bricks. The English factory, the *serai* of the *Mutesellim* (residence of the governor), one or two of the principal mosques, and perhaps half a dozen mansions of the richest inhab., are the only buildings of kiln-dried bricks, and in fact, the only decent edifices in the place. There are about forty mosques, innumerable *khans* and coffee-houses, and a wretched bath: the bazaars, though stocked with the richest merchandise, are not arched, as in Bagdad and other Persian cities; but are miserable structures, covered only by mats laid on rafters of date-trees. Bussorah is a place of considerable trade, being the grand emporium of the Turkish empire for Indian and other eastern produce. Its situation is, in this respect, so favourable, that notwithstanding the obstacles arising from bad government and unsafe access, both by land and sea, it continues to command a considerable traffic; almost every inhab. being in some way or other concerned in trade. At the mouth of the Shat-ul-Arab there is a bar which has commonly only about 12 ft. water; but the channel within is deep, and ships of 500 tons burden, provided they cross the bar at spring tides, may, without difficulty, ascend the river as far as the city. At an average, five or six British

ships arrive in the course of the year from India; but the principal part of the trade is carried on in Arabian bottoms, particularly in those belonging to Muscat. The imports are muslins and piece-goods, pepper, and other spices, drugs, rice, sugar, indigo, silk, cotton yarn, Surat manufactures, shawls, China-ware, and paper, dye-woods, coffee, lac, beads, sugar-candy, and other articles, the produce of India; with lead, iron, steel, tin, quick-silver, cochineal, &c., exported to that country from Europe. The returns to India are mostly made in the precious metals, Arabian horses, pearls, dates (a staple product of Bussorah), copper, gall-nuts, raw silk, gold fringe, coral, gums, rose-water, assafoetida, almonds, dried fruits, &c. Of these, gold and silver coin and horses constitute the principal articles. The average cost of the horses sent to Bengal is, on their arrival at Calcutta, including all expenses, about 2,000 rupees, or 200*l*.; that of those sent to Bombay is about 800 rupees, or 80*l*. each. From Persia, Bussorah imports shawls, assafoetida, and fruits, and a few horses from Bushire; coffee, dates, and gums, from Arabia; pearls from Bahrein; coral from the Mediterranean, by way of Aleppo. Amongst the returns to Persia, through Bushire, are a good many English cotton prints, received at Bussorah from the Black Sea, Smyrna, and Constantinople.

The trade with Aleppo and Bagdad is conducted by means of caravans. The naval force of Bussorah was once sufficiently powerful to command the whole of the Persian Gulf, and to suppress the marauding expeditions of the pirates who have infested it. It has now, however, dwindled to almost nothing.

The boats used upon the canals are of many different kinds, two of which may be worth notice. The first is a light canoe, long, narrow, and drawing only a few inches water, and impelled forwards by two boatmen, who stand at the head and stern, and often use short paddles alternately from side to side. The second is a circular kind of boat of basket-work covered with bitumen, of shallow draught, capable of containing six or eight persons, and which are paddled or span along, making a circular motion. The ebb tides occupying always twice as long a time as the flood, and the chief canal being much too small for the convenient passage of the vessels employed on it, great activity and corresponding confusion takes place for a short period only, after which most of the craft are grounded till next tide. About half the inhabitants are Arabs, one-fourth Persians, and the remainder a mixture of Turks, Armenians, Jews, Catholic Christians, and Koords. The Turks are few, perhaps not above 500; they, as well as the Arabs, are of the Sunite sect, excepting a small body of Arab Christians, who call themselves Subbees, or disciples of John the Baptist. The Persians, who are of the sect of the *Schites*, engross most of the intermediate stations in commerce, as those of clerks, shopkeepers, mechanics, and, while among the Arabs, a man is either in easy circumstances or a mere labourer. The Armenians do not exceed 50 families; they are chiefly, merchants and brokers: they have a small church, with two or three priests. The Jews amount to about 100 families: they are similar to their tribe elsewhere. The Catholic Christians are about 20 families; some are natives of Bussorah, others are recent settlers from Bagdad and Aleppo. The Subbees are a singular sect, scattered over the plain of the Euphrates, very limited in numbers, and constantly intermarrying. They practise no fasts, but baptism is frequently performed on the same individual; their places of worship are all tem-

porary; they are very particular as to the purification of their food, and are said to hold a breach of trust in abhorrence. They are mostly mechanics and handicraftsmen, especially smiths and workers in metals. The Indians in Bussorah are chiefly Banians; and the sepoys of the British factory guard are mostly Hindoos. Some few have their women with them; altogether, they may amount to 200. The few Koords are mostly engaged under the Turks in inferior offices of trust, and in the army. Bussorah formerly constituted a separate pashalic; but its governor has for a long period been sent from Bagdad, to the pacha of which he is subordinate.

The country around Bussorah has no beauties to recommend it. It is for the most part a dead flat. Corn, dates, olives, pomegranates, and other fruit, vegetables, and pot-herbs, are cultivated, and there are whole fields of roses grown for the distillation of the attar, and rose-water. Wherever portions of this plain are enclosed near the city walls, and irrigated for a few years from the canals, fine garden plots are soon produced; and under a good government the whole of it would no doubt become of the most exuberant fertility. At present, however, few villages or people are to be seen without the walls of the city; a monotonous and gloomy silence prevails; and on the W. and S. nothing is seen but a dreary desert extending as far as the eye can reach, with no object to break the line of the horizon but the tops of the houses of Zobeir just seen above it, and the range of Geb-el Senam. For six months of the year Bussorah is quite surrounded by water, like an island in the midst of a sea. Summer is extremely hot, and in autumn the city is unhealthy. Winter and spring are delightfully cool, refreshing, and salubrious; and Bussorah is at these seasons resorted to by invalids from India.

In the English factory, established in 1640, there is an English resident; but with this exception, there are no Europeans in the place. The French factory has merely a nominal existence; the officer under whom it is placed resides at Bagdad.

Bussorah originated from a town now called Zobeir, 8 m. to the SW., founded by the caliph Omar in 635 or 636, on a canal supposed to be the ancient Pallacopas. In a few years it became one of the largest and most flourishing cities of Arabia; but the canal being neglected, and becoming useless, the ancient site of the city was abandoned. The present city was taken by the Turks in 1668, by the Persians in 1777, and by the Montefik Arabs in 1787. A few months after the latter conquest it was retaken by the Turks, to whom it has ever since belonged.

BUTE, a co. of Scotland, consisting of the islands of Bute, Arran, the Cumbraes, and Inch-marnock, all in the Frith of Clyde. Its total area comprises 171 sq. m., or 109,875 acres, of which about 60,000 are cultivated, 40,000 improvable, and the rest unimprovable. It contained in 1861 a pop. of 16,331, living in 2,322 houses. The old valued rent was 1,258l.; the new valuation for 1864-5, exclusive of the burgh of Rothesay, was 40,128l. The county returns one mem. to the H. of C.; registered electors, 513 in 1865.

BUTE, the island whence the above co. takes its name, in the Frith of Clyde: it is separated from the district of Cowall in Argyshire by a narrow winding channel, called the Kyles of Bute, is about 5 m. W. from the nearest point of the Argyshire coast, and is about 19 m. in length (NNE. and SSW.), by about 4 in breadth. Pop. 6,503 in 1861, of which 5,555 belonged to the bor. of Rothesay. Its N. extremity, towards Argyre, is bleak and rugged, but its central and S. parts consist for Vol. I.

the most part of undulating grounds, with moderately good soil, fit either for tillage or pasturage. The climate is remarkable for mildness and salubrity, but is particularly humid, which renders it not so suitable for agriculture as for the raising of cattle. Agriculture has, however, been materially improved of late years; and a good deal has been done in the way of consolidating farms, building improved houses, opening new roads, &c. The town of Rothesay, on the E. coast, famous for its old castle, once the residence of the Scottish monarchs, is now become, in the summer seasons, a favourite resort of the citizens of Glasgow. The principal part of the island belongs to the Marquis of Bute, whose seat, Mountstuart, on the E. side of the island, a little to the S. of Rothesay, is its chief ornament. Most part of the inhab. speak Gaelic; but the use of English is daily becoming more prevalent. Kean, the eminent tragedian, had a seat, in a secluded situation, in the interior of the island.

BUXTON, a town and fashionable watering-place of England, co. Derby, hund. High Peak, par. Bakewell, 150 m. NW. by N. London by road, and 193½ m. by London and North Western railway. Pop. 1,211 in 1831, and 1,877 in 1861. The town stands in a valley surrounded by hills of considerable elevation, except at one narrow opening, through which the Wye flows. The old town stands on much higher ground than the modern one, and consists of one wide street, in which are a few respectable inns and lodging-houses, but the greater number are low ancient buildings: it has a market-place, with an old cross in the centre. The new part, commencing with the Crescent, extends along the Bakewell road. This is an elegant range, in the Grecian style, comprising two hotels, a library, news and assembly-rooms, baths, and some private houses; the whole erected by the late Duke of Devonshire, in 1781, at a cost of 120,000l. The adjoining square has an arcade, continuing that of the Crescent, and forming, with it, a covered promenade of considerable extent. Connected with the range of stabling at the back, is a spacious covered ride; altogether, there is accommodation for about 1,500 visitors; and during its season (from June to Oct.) from 12,000 to 15,000 usually resort to the town. The church is an elegant modern structure, also built by the late Duke of Devonshire. There are several dissenting chapels; an endowed school, on Bell's plan; and a 'Bath Charity,' supported by subscription, for poor invalids coming from any part, with a proper testimonial from the minister of their parish: they have the gratuitous use of a bath, and maintenance for a month. From 1,100 to 1,200 are thus annually relieved. At the W. end of the Crescent stands the old hall, built by the Earl of Shrewsbury, in the reign of Elizabeth, in whose custody Mary Queen of Scots was placed; who, being occasionally permitted to visit Buxton, occupied apartments in it. It is now an inn. The public and private baths are numerous, and fitted up with every attention to comfort. St. Anne's Well, where the waters are usually drunk, is a handsome Greek building: it supplies both hot and cold water from springs that rise at a short distance from each other: the temperature of the latter is 66° Fahr.; that of the Buxton hot waters is, in all seasons, invariably 82° Fahr. Besides these (which are properly the *Buxton waters*), there is a chalybeate spring, issuing from a chalk stratum behind the Crescent, which has a building over it, and is occasionally drunk: when mixed with that of the other springs, it forms a purgative. These mineral waters rise on the western edge of the limestone range which occupies that

portion of Derbyshire called the Peak Forest, extending from Castleton southwards, and consisting of alternate beds of limestone and amygdaloid (road-stone), the former abounding in polypiferous and other fossils. A large fault traverses the whole, and in this dyke the thermal springs, both of Matlock and Buxton, rise; the latter being at the S. end of the out-cropping of the lowest limestone bed. Buxton waters have been celebrated for their medicinal virtues from the Roman period. The water is hard, in consequence of the calcareous matter, but perfectly clear; nor does it become turbid by any length of exposure. It is used as baths, or topically, by pumping on particular parts of the body; and is also taken internally, in quantities varying from $\frac{1}{2}$ pint to $1\frac{1}{2}$ pint, in the course of a day: it is considered beneficial in dyspeptic cases, and as a bath in cases of gout and rheumatism. The chalybeate spring has $\frac{1}{2}$ grain carbonate of iron in 1 gallon: it is very soft water.

There is a weekly market on Saturday, and annual fairs on Feb. 8, April 1, May 2, and Sept. 8; this last is for cattle. The sale of the mineral productions of the district, and the manufacture of ornamental vases, from fluor and alabaster, occupies many of the people. About half a mile W. of the town, lime is quarried and burnt to a considerable extent, and conveyed along the High

Peak railway for some distance. There are many public walks laid out with great taste, and the neighbourhood in all directions is most interesting and romantic. Near the lime quarries is Pool's Hole, an immense natural cavern covered with stalactites, which have a very brilliant appearance when lighted by the guides who show the cave; beyond this is the Diamond Hill, so named from the profusion of well-defined hexagonal crystals dispersed through the soil. Five miles in the direction of Castleton is a curious intermittent spring. Buxton was a Roman station, and two great military roads intersect near it: vestiges of a Roman bath, and many Roman coins, have been discovered.

BUZANCAIS, a town of France, dép. Indre, cap. cant., partly on the banks of the Indre, and partly on islands in its channel; the connection between its different divisions being maintained by means of five bridges, 14 m. NW. Chateauroux. Pop. 5,016 in 1861. Though the situation be exceedingly good, the town is very ill built, and presents a confused mass of old houses, interspersed with narrow, crooked, and gloomy streets. There are in its environs some considerable foundries, and some trade in wool is carried on by the inhabitants.

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CABES, or GABES, a sea-port and city of Barbary, reg. Tunis, at the bottom of the gulf of the same name (*Syrtis Minor*), near the foot of Mount Hancara, on the right bank of a small river; lat. $33^{\circ} 53' 55''$ N., long. $70^{\circ} 44' 1''$ E. Pop. estimated at 20,000. The city is defended by a castle, in pretty good repair. Streets regular, but narrow and filthy. Owing to the gradual filling up of the bay, its port is now only accessible to vessels of small burden. The chief article of export is a powder made of the odoriferous leaves of a plant called *hennah*, raised in the surrounding gardens. This powder is used as a pigment by the ladies of the East, and is, consequently, in great demand.

Cabes is said to be the *Epictus* of Scylax, and the *Tacape* of other ancient geographers. Ruins of the ancient city, among which are several square granite columns, 12 ft. in length, are met with on a rising ground, about $\frac{1}{2}$ m. from the new city. The little river which runs through the city (the *Triton* of the ancients) is diverted into a great number of channels, for the purpose of watering the hennah gardens.

CABINDA, a sea-port town of Lower Guinea, cap. En-Goyo, on the Atlantic, 50 m. N. from the mouth of the Zaire, lat. $5^{\circ} 33'$ S., long. $15^{\circ} 40'$ E. It is distinguished by its beautiful situation, and the fertility of its territory, which have obtained for it the title of the paradise of the coast. Its harbour is safe and commodious. The exports are slaves, ivory, honey, and wax. The natives are uncivilised, and difficult to deal with. The Portuguese have frequently attempted, but without success, to get a footing in this place.

CABRA (an. *Egabrum*), a town of Spain, prov. Cordova, near the source of the river of the same name, partly on two hills and partly in a plain planted with vines and olives; 28 m. SSE. Cordova. Pop. 11,076 in 1857. Some of the streets are wide and straight, with streams of water running through them, and good houses with magnificent fronts. There is a large, but irregular

square; many public and private fountains and promenades; some ancient mosques, and other ruins. Here is, also, a college, with classes for the study of grammar, philosophy, mathematics, and design. The town has manufactures of tiles, bricks, white soap, coarse linen and hempen cloths, with wines, brandy, vinegar, oil, and flour. There are nearly 400 gardens attached to the town, which supply most parts of the district with fruit and vegetables. The neighbourhood produces marble of various kinds, gypsum, and clay for bricks and pottery. The crater of an extinct volcano is situated in the precincts of the town. It was a place of consideration among the Romans, and also with the Moors.

CABRERA, a small island of the Mediterranean, belonging to Spain, 9 m. S. Cape Salinas, Majorca.

CACCAMO, a town of Sicily, prov. Palermo, cap. cant., 24 m. SE. Palermo. Pop. 7,244 in 1862.

CACERES, a town of Spain, prov. Estremadura, cap. district; 41 m. N. Merida; on a mountain ridge, washed by three rivers, along one of which there are nearly 8 miles of gardens; 24 miles W. Truxillo. Pop. 14,800 in 1857. The town has an episcopal palace, some good public buildings, with many good private houses. It has, also, a Jesuits' college, the most sumptuous in the prov.; a public school; a seminary, or college, with professorships of grammar, and the Latin and Oriental languages, philosophy, divinity, medicine, and jurisprudence; a hospital for infirm persons, widows, and orphans. It was formerly united to Portugal, and was then of much more consideration than at present. It has some flour-mills, fulling-mills, with tanneries, *lavaderos* for washing wool, dyeing-works, and manufactures of earthenware. Caceres appears to have been a Roman station, some magnificent ruins having been discovered in and within a short distance of the town.

CACHAO, or KE-CHO, often called by the

natives *Bak-than*, the largest city of the empire of Anam, cap. of its N. div. or Tonquin, on the right bank of the Tonquin river, about 80 m. W. the Gulf of Tonquin, and 825 m. NNW. Hue; lat. 21° N., long. 106° 34' E. Pop. estimated at 90,000. The city is of great extent, but defended only by a bamboo stockade. Chief streets wide, and mostly paved with brick or small stones; the others narrow and unpaved. Some houses, chiefly those belonging to foreigners, are built of brick; but the greater number are of only mud and timber. Public edifices spacious, especially one royal palace, and the ruins of another; the walls surrounding each of which are reported to be of vast extent. It has a considerable trade, and had formerly both English and Dutch factories. The imports are long cloths, chintzes, and arms; the exports, gold, fine silk fabrics, and lacquered wares, the best of the East. The N. branch of the Tonquin river, which once admitted much larger ships, is said, in consequence of the accumulation of sand at its mouth, to be now impracticable for those above 200 tons burden. The city being composed to so great an extent of inflammable materials, is very subject to destructive fires: and a rigid police is always on the alert to prevent the use of those for domestic purposes for more than a few hours in the day. It was nearly burnt to the ground by some incendiaries in the course of the 17th century.

CACHAR, or HAIRUMBHO, a territ. of India beyond the Ganges, formerly governed by its own rajah, but since 1832 a British gov., subordinate to the presid. Bengal. It lies between lat. 24° and 27° N., and long. 92° and 94° E.; having N. Assam; E. Cassay; S. Tipperah; and W. Sylhet and Jynteah; length, N. to S., about 140 m. The area embraces a territory of 6,500 sq. m., with an estimated pop. of 70,000. Cachar is surrounded on three sides by mountain chains: on the N. the Naga mountains cut it off from the Dharmapour district and the valley of the Brahmaputra; on the W. the boundary is formed by the same chain, which, running S., forms the E. frontier of Chittagong and Aracan, and opposite Sylhet and Mune-poor is from 2,000 to 4,000 ft. high; on the S. is an elevated chain running E. and W., and inhabited by the Kookies. Another range runs parallel to the latter, in about lat. 25° 30' N., dividing Southern from Central and Northern Cachar, and from 4,000 to 6,000 ft. high; all these ranges are covered from base to summit with vast forests. The plains are mostly in S. Cachar, where their height above the sea is about 200 ft. The chief rivers are the Barak, Kapilee, Jumona, and Dhun-seree. The first rises amongst the mountains between Cassay and Assam, in lat. 25° 30' N., and long. 91° 20' E., and flows with a very tortuous course for 180 m. through S. Cachar, which it leaves at Banga (Sylhet). It varies considerably in width, but is sometimes 150 or 200 yds. across, and is navigable for boats of some burden to 20 m. above Bauskandee: during the rains it has 30 or 40 ft. depth of water, and the country through which it flows is inundated from June to November. The mountain-streams afford ready access to the forests, and are of farther service in floating down timber, rattans, bamboos, &c., from which much revenue has been realised by the former rajahs. No lakes have been enumerated. During the SW. monsoon there are frequent and long-continued falls of rain, beginning in February or March, from which period vegetation proceeds with great rapidity. The excessive moisture renders the climate unhealthy; and ague, dysentery, and diarrhoea, are frequent: but it modifies the heat in summer, reducing it four or five degrees below the temp. of Calcutta. In the cold season fires,

morning and evening, are found essential to comfort. The fertility of the soil is very great: rice and other grain, sugar-cane, and cotton, the latter especially, N. of the central hills, grow luxuriantly. Timber is very abundant in the mountain ranges, and has always been an important source of wealth: in other parts a dense and lofty reed and grass jungle rapidly springs up after the rains, affording cover for vast numbers of wild deer, buffaloes, and elephants.

S. Cachar is a valuable addition to our eastern possessions; its fertile plains, which are continuous on the W., with the well watered ones of Sylhet, extend E. as far as the Juree river, a tributary of the Barak. There are 1,850 sq. m. of surface S. the Barak; 1,700 of which are a fertile plain, now almost wholly unoccupied, although the traces of numerous villages abound on the banks of the rivers. N. of the Barak there are 1,000 sq. m. of surface, 480 of which are estimated to be arable land of a very fine quality. This tract is daily becoming better inhabited, and immediately along the banks of the Barak there is a belt of rich cultivation not surpassed in any part of Bengal, and the tracts contiguous to it are in process of being cleared: a considerable emigration appears to have taken place thither from Bengal. The pop. of S. Cachar consists of three or four different classes, viz. 1, Cacharees; 2, Mussulman Bengalees, who are the chief of the petty landholders; 3, Hindoo Bengalees; and 4, mixed tribes, as Nagas, Kookies, and Cassays: the first two have long inhabited the S. and E. hills, but tendered little homage to the Cachar rajahs; and the Cassays have been settled there by the British government, and, by their bold and military qualities, form a valuable protection against the other hill tribes to the inhabitants of the plains.

From the central ridge, looking N., is seen a vast mass of dark and dense forest, bounded by the Kopili, Jumona, and Dhun-seree rivers; extending for about 70 m., and broken only by a few specks of cultivation, and the scattered huts of a few Cacharees and Kookies, who earn a livelihood principally by the cultivation of cotton, which they barter for other produce to the inhabitants of Assam and Dhurrumpoor. About 6,000 of the pop. in Central Cachar are probably aborigines: the remainder are Kookies and Loloongs, most likely from the S. and SE. Emigration from Sylhet into Cachar has been greatly encouraged by the assignment of lands at the low rate of three annas per bega, to be held rent free for 1,000 days, at the end of which time the quantity of land cleared was to be assessed. The people of the central hills bring cotton, ivory, wax, iron-ore, and bamboos, into Central Cachar; about 2,000 jarool timbers are sent down the Barak into Sylhet, for building large *chunam* boats. The other exports are salt, coarse silk, and limestone.

Three routes through Cachar into Cassay part from Banskandee near the E. extremity of the cleared plains: viz., those of Aquee, Kala Naga, and Khonginee. By the former, or most N., the distance from Banskandee to Jaenagur, in the Cassay central valley, is 86 m.; the first 30 m. of which pass through a dense forest abounding in swamps, and intersected with small streams, which rapidly become impassable after rains. The Kala Naga route is in all these respects preferable, and also crosses the Juree river 8 m. from its confluence with the Barak, up to which point the latter is navigable for boats of 500 maunds. The third route passes over the hilly country of the Kookies, and is useless for military purposes. (See CASSAY.) Several roads toward the central hills traverse S. Cachar, which all unite in one

valley, and thence run through the central and N. divisions toward Assam, into which there are three separate routes through Cachar from Sylhet. Cospoor is the anc. capital, but Silchar, S. the Barak, is the present residence of the chief authorities. The Cacharees are strong, robust, fairer than the Bengalese, and like the Chinese in features. The original Hairumbian dialect is said to have been monosyllabic, but is now nearly extinct, the language and written character of Bengal having usurped its place. The Kookies, who have been for years gradually advancing it, are supposed to be of Malay origin; they are seldom much more than 5 ft. in height; their complexions nearly as dark as those of the Bengalese; voices soft, and language harmonious. Small parties, of from 10 to 30 of them, formerly made frequent secret incursions within our frontiers, in search of human heads, which would seem to be necessary articles at the performance of certain of their religious ceremonies.

Cachar was unknown to the British until 1763; when Mr. Verelst led a small force into it. In 1774 it was invaded by the Birnese, and some time after rendered tributary by them. In 1810 they placed the Rajah of Muneepore on the throne of Cachar; and, from 1818 to 1823, a civil war for supremacy between that chief and his two brothers devastated the prov. By the treaty of Zandaboo, in 1826, Cachar was placed under British protection, and the rajah re-established; but on his death in 1830, without any heir, it became, in 1832, an integral part of the British territory.

CADEROUSSE, a town of France, dép. Vaucluse, on the left bank of the Rhone, which at this point encloses a considerable island, 8 m. SW. Orange. Pop. 8,160 in 1861. The town has some silk flatures, and its territory is productive of corn, silk, and madder.

CADIZ, a city and sea-port of Spain, in Andalusia, on the Atlantic, 63 m. S. Seville, and 60 m. NW. Gibraltar, on the terminus of the South Western railway from Madrid. Pop. 70,811 in 1857. The city occupies the rocky and elevated extremity of a long, low, narrow tongue of land, projecting about 5 m. NNW. from the Isle of Leon, and enclosing between it and the main-land a spacious bay, which has everywhere good anchorage. The harbour is about 9 m. long, from Rota to Carraca, and three miles broad, from Cadiz to Port St. Mary's, or to Port Royal. The port of Cadiz is formed by a mole projecting from the city into the bay; but it is accessible only to small vessels, ships of large burden anchoring $\frac{3}{4}$ m. off shore. The bay is divided into the inner and outer bays by the promontory, having at its extremity the fort of Matagorda. The isthmus joining the city to the main-land is in parts not more than from 200 to 300 yards across, and is very strongly fortified: the access to the city from the sea is in some places rendered impracticable by the steepness of the rocks, the occurrence of sandbanks and of sunken ledges; and being everywhere defended by ramparts, bastions, and detached forts, it would, were these kept in proper repair and well garrisoned, be all but impregnable; so that, as respects convenience and security, Cadiz, with its bay and dependencies, is probably unmatched, and certainly not surpassed, as a naval dépôt. Streets straight, and though rather narrow, are remarkably well paved, clean, and lighted with lamps. The houses, in general lofty, have a court in the centre; they are mostly built of white freestone, and some of them are ornamented with painted balconies. There are several squares; but, with the excep-

tion of that of San Antonio, in the centre of the city, they are all of very limited dimensions. The ramparts afford the finest marine promenade, the view on the E. side extends across the bay to St. Mary's and the other towns by which it is lined, and to the mountains in the distance: on the W. the eye ranges over the boundless expanse of the Atlantic.

With the exception of the fortifications, Cadiz has no public buildings of any importance. The most conspicuous is the lighthouse of San Sebastian, on the bastion of that name, having the lantern elevated 172 ft. above the level of the sea. There are two cathedrals—an old and a new; but the latter is unfinished. There is a custom-house, several hospitals, churches and convents. The town labours under a great deficiency of water, having none that is potable but what is brought in vessels across the bay from St. Mary's, or what is collected in cisterns. Being almost surrounded by the sea, the climate is comparatively temperate; the summer heats are less violent than in Madrid, though it be so much farther south, while the cold of winter is not nearly so severe. It is not unhealthy; but, like most other towns on the S. coast of Spain, is occasionally visited by epidemics. There is a tolerable theatre, where Italian operas are sometimes performed; but those who wish to enjoy the national diversion of bull-fights must cross the bay to St. Mary's. Morals here are said to be, if possible, even at a lower ebb than in other Spanish cities.

The *Caracca*, or royal dockyard, is situated at the bottom of the inner bay, about 6 m. from the city, on the channel separating the isle of Leon from the main-land. This used formerly to be a very complete establishment; and as many as 5,000 men were kept constantly at work in it. Now, however, it is all but deserted.

The commerce of Cadiz was formerly very extensive. For a lengthened period the city possessed a monopoly of the trade with the vast possessions belonging to Spain in the New World and notwithstanding the abolition of the monopoly in 1778, she continued to engross by far the larger portion of the trade with these countries down to their emancipation. This event gave a blow to the commercial importance of Cadiz, from which it has not recovered. Its influence might, no doubt, have been in a great measure obviated, had the Spanish government adopted a more liberal policy in relation to its intercourse with other countries. But oppressive duties and restrictions went far to destroy the foreign trade of Spain. To raise the commerce of Cadiz from the depressed situation into which it had fallen, government made it, in 1829, a free port, that is, a port into which goods might be imported, and from which they might be exported, free of duty. In consequence of this privilege, it immediately became a principal dépôt for the foreign products destined for the Spanish market; and the smuggling carried on from the town was so great, that, in 1832, government not choosing to reduce the duties which occasioned it, and being unable otherwise to repress the abuse, withdrew the privilege, so that the trade again relapsed into its state previously to 1829. It has still, however, a larger share than any other Spanish town of the trade with Cuba, Puerto Rico, and Manila, the only remaining colonies of Spain; and it, or rather its dependency, St. Mary's, is the centre of the sherry trade, all the wines of Xeres being shipped either from the one or the other.

The principal articles of import are fabrics of linen, wool, silk, and cotton, of which, however,

a large proportion is destined for re-exportation; sugar, cocoa (of which there is a very great consumption in Spain), coffee, and other colonial produce; timber, tobacco, hides, and salted fish. Wine forms by far the principal article of export; the quantity shipped from Cadiz and the different ports round the bay amounted, in 1864, to 67,358 butts, of 640 English bottles each, of a total estimated value of 1,326,724*l*. In 1863 the shipments were 66,321 butts.

The shipping of the port of Cadiz is shown in the following table, embracing the commerce of nine years, from 1856 to 1864:—

Years	Spanish Vessels	Foreign Vessels
1856 . . .	2,953	759
1857 . . .	3,770	911
1858 . . .	3,719	867
1859 . . .	3,815	929
1860 . . .	4,036	902
1861 . . .	3,766	1,105
1862 . . .	3,861	1,015
1863 . . .	3,835	1,034
1864 . . .	3,764	1,079
Total . .	33,618	8,601

The foreign shipping of the year 1864 was divided between the following nationalities:—

	No. of Ships	Crew	Tons
British . . .	388	5,155	107,426
French . . .	213	3,353	60,019
Swedish and Norwegian . . .	125	1,865	40,770
Russians . . .	60	819	20,023
Portuguese . . .	59	544	4,155
Dutch . . .	55	686	3,529
Italian . . .	48	571	10,957
Americans . . .	32	374	15,848
Hanoverians . . .	19	157	2,705
Bremen . . .	16	256	5,467
Prussians . . .	16	163	3,917
Danish . . .	10	91	2,056
Mecklenburg . . .	9	107	2,845
Belgian . . .	8	94	1,373
Hamburg . . .	8	79	1,939
Austrian . . .	7	88	3,054
Oriental (Turkish) . . .	3	40	902
Oldenburg . . .	2	18	364
River Plate . . .	1	11	141
Total . . .	1,079	14,471	287,490

There are several lines of steamers between Cadiz and England, as well as to Gibraltar, Lisbon, Marseilles, Havre, Amsterdam, and Hamburg. The Spanish mail-steamers start from Cadiz for Cuba, Porto-Rico, and the Canaries.

Cadiz is very ancient, having been founded by the Phœnicians. In 1596 it was taken and sacked by the English, by whom it was again ineffectually attacked in 1623 and 1702. In 1809 it became the asylum of the Cortes, and was blockaded by the French till 1812. In 1823 it surrendered to the French under the Duc d'Angoulême.

CAEN, a town of France, *dép.* Calvados, of which it is the capital, in an extensive valley between two large meadows, at the confluence of the Odon with the Orne, about 8 m. from the embouchure of the latter, 30 m. SW. Havre, on the railway from Paris to Cherbourg. Pop. 43,740 in 1861. Caen is a well-built, improving town. The streets are generally broad, straight, and clean; and the houses of freestone have a good appearance. It was formerly a place of considerable strength, being defended by a castle, and surrounded by massive walls, flanked with towers. The latter and the walls have almost disappeared: the castle, which was of great size and strength,

was partly demolished at the Revolution; the portion of it that still remains is now used as a prison. There are four squares, of which the Place Royale, ornamented with a statue of Louis XIV., is the finest. A *cours*, or public walk, shaded by magnificent elm trees, extends for nearly a mile along the banks of the rivers. There are some fine old churches, of which the most interesting is the *Abbaye aux Hommes*, built by William the Conqueror; it is a large, plain building, with two very high spires; and contains, among other interesting monuments, the tomb of the Conqueror; but the latter was violated by the Huguenots, in 1562, and the bones dispersed. The *Abbaye aux Femmes*, also very ancient, is now the Trinity Hospital, one of the best managed establishments of the kind anywhere to be met with. The church of St. Peter has the finest spire in Normandy; and several of the other churches deserve notice. Among the other public buildings are the hotel of the prefecture, the Hôtel de Ville, the Palace of Justice, and the Hôtel Dieu. Caen has been long celebrated for its university, founded in 1431, by Henry VI., king of England. It was remodelled after the Revolution, and now exists under the title of an *académie universitaire*. There are here, also, a royal college, or high school, with from 450 to 500 pupils; a secondary school of medicine; a primary normal school; a school of hydrography; a public library, containing 47,000 volumes; a botanical garden, with a good collection of plants; a school of architecture and design; a deaf and dumb school; museums of pictures and natural history; with numerous societies for the promotion of literature, and the fine and useful arts. It is the seat of a royal court for the *depts.* of Calvados, Manche, and Orne; and for tribunals of original jurisdiction and commerce. The manufactures of the town are important and valuable. They consist principally of laces, and of thread and silk, the making of which employs a vast number of people; stockings and caps, table linen, a variety of cotton fabrics, coarse and fine earthenware, cutlery, hats, paper, and leather. At high water, vessels of 150 or 160 tons come up the river as far as the town, where they lie alongside the quays. Since the opening of the railway which places Caen in direct communication with Paris, the commerce of the town has much increased.

Several large fairs are held for the sale of the products of the town, and of the horses, cattle, butter, and fowls of the surrounding country. In consequence of its excellent establishments for education, and other advantages, Caen is a favourite resort of English families. It has produced several distinguished men; among whom are Malherbe, the father of French poetry; the learned Huet, bishop of Avranches, Tannegui, and Lefèvre.

Caen is not very ancient. It became of importance under the dukes of Normandy, by whom it was fortified. It has undergone several sieges, and fell finally into the possession of the French in 1448, when it was taken from the English by Dunois. It was taken by the Protestants in 1562, when it suffered severely.

CAERLEON, a town of England, *co.* Monmouth, *hund.* Usk, *par.* Llangattock, on the Usk, 18 m. SW. Monmouth. Pop. 1,268 in 1861. Caerleon was the *Ica Silurum* of the Anglo-Romans, and was then of great importance, being the cap. of the prov. of Britannia Secunda. At a later period, it was celebrated as a seat of learning, and, in the 12th century, Giraldus Cambrensis gave a lively, though perhaps exaggerated, picture of its wealth and magnificence. Several Roman antiquities have been dug up in the town and its vicinity, and in several parts the Roman walls are still visible.

An elliptical concavity, the longest diameter measuring 74 yards, and the shortest 64, and 6 yards in depth, is situated in a field close by the Usk, near the SW. side of the town. The country people call it Arthur's Round Table; but no doubt it is the remains of an amphitheatre. Within the course of last century stone seats were discovered on opening the sides of the concavity; and, in 1706, an alabaster statue of Diana was found in it. It has a well-endowed charity school for maintaining and educating 30 boys and 20 girls.

CAERMARTHEN or CARMARTHENSHIRE, a marit. co. of S. Wales, having S. Caermarthen Bay, which unites with the Bristol Channel, E. the cos. of Glamorgan and Brecon, N. Cardigan, and W. Pembroke. Area, 623,860 acres; pop. 111,796 in 1861. Surface various, in part mountainous, and in part consisting of low fine vales: the largest and most celebrated of the latter is the vale of Towy, stretching for about 30 m. along the river of that name, by which the co. is intersected, with an average breadth of about 2 m. 'Ystrad Towy,' or the Vale of Towy, was the ancient Welsh name of the county. Exclusive of the Towy, Caermarthen is separated from Cardigan by the Taafe, and in part from Glamorgan and Pembroke by the Longhor and the Taafe. The portion of this co., S. and E. of the Towy, adjoining Glamorgan, is included in the great coal-field of S. Wales: at Llanelly there is also an abundant supply of iron-stone, and considerable iron-works. Soil of the arable land mostly a sandy loam, easily wrought, admirably adapted to the turnip husbandry, and in general very productive. But agriculture here, and indeed in the greater part of Wales, is in an extremely backward state. The occupiers are, for the most part, uninstructed, and strongly attached to ancient practices. Drainage, though the first and most essential of improvements, is almost wholly neglected; tenants are not usually under any restrictions as to management, and the common practice is to take corn crops in uninterrupted succession from the land till it be completely exhausted. Manufactures, unimportant. Principal towns, Caermarthen, Llanelly, and Kidwelly.

Carmarthenshire is divided into 8 hundreds, 72 whole parishes, and parts of 4 others; and 5 registry districts and poor law unions. The co. constitutes an archdeaconry in the dio. of St. David's. It returns 2 mems. to the H. of C. for the co., and 1 for the bor. of Caermarthen. Registered electors for the co., 4,337 in 1865. Gross rental assessed to poor-rate 836,185*l.*, and net rateable value 289,863*l.* The gross annual value of real property assessed to income tax amounted to 351,806*l.* in 1857, and to 374,721*l.* in 1864.

CAERMARTHEN, the cap. of the above co., and a parl. and municipal borough, situated on an irregular acclivity on the NW. bank of the navigable river Towy, 7 m. N. from its embouchure in Caermarthen Bay, Bristol Channel; 180 m. W. by N. London by road, and 245*½* m. by Great Western and South Wales Railway. Pop. 9,526 in 1841, and 9,998 in 1861. A few of the streets are tolerably wide, well paved, lighted with gas, and contain many respectable houses; but the rest are narrow and crooked, and those leading to the river steep, and the pop. much crowded: the best houses are on the Milford line of road. The supply of water is inadequate. There are two churches, several dissenting chapels, and a grammar-school; a Presbyterian college for young men intended for that ministry (of which the corporation nominate the master and 6 scholars); a Lancastrian and a national school. The guildhall, a handsome edifice raised on pillars, has under it the market-place for corn. It has also a theatre, and bor. and

co. gaols; the latter is on part of the site of the old castle (of which some remains are still left), on the brow of the hill rising abruptly from the river; along which the quay extends. The river is crossed by a fine bridge of 7 arches. Markets, Wednesday and Saturday; and cattle fairs, April 15, June 3 and 4, July 10, Aug. 12, Sept. 9, Oct. 9, Nov. 14 and 15. There are no manufactures of any importance in the town; but, as it furnishes the populous district in the vicinity with articles of general consumption, its trade is considerable. Principal exports (all coastwise), bark, marble, slate, lead ore, leather, corn, butter and eggs; imports, general cargoes of British and colonial produce, and manufactures, and timber and deals. At an average, 10 cargoes a year are imported from abroad, the vessels sailing outward in ballast. About 40 vessels belong to the port, and vessels of 50 to 150 tons are built here. It is a creek, comprised in the port of Llanelly. Vessels of 200 tons may ascend to the bridge at spring tides; but many obstructions are suffered to accumulate in the river, so that they are frequently obliged to discharge 2 m. below. The salmon fishery, which was once very extensive, has much decreased. Races are annually held in Sept., 4 m. up the vale of the Towy. It is the central town of a poor law union of 16 pars.; gross rental assessed to poor rate 58,405*l.*; net rateable value 40,773*l.*, in 1862.

Caermarthen has returned 1 mem. to the H. of C. since the reign of Henry VIII. The limits of the present parl. bor. coincide with those of the ancient bor., but Llanelly is now joined with it, as a contributory bor. Previously to the Reform Act, the elective franchise in Caermarthen was exercised by persons admitted *de jure* burgesses, under qualifications of a freehold estate within the bor., *ex gratia*, and servitude of apprenticeship for 7 years. Registered electors in both bors., 855 in 1865. The election of a mem. for the co. takes place here. The limits of the municipal bor. are now restricted to the town and a small space round it. It is divided into 2 wards, and governed by a mayor, 6 aldermen, and 18 councillors; a sheriff and recorder. Courts of petty sessions are held weekly; fortnight courts, for the recovery of debts, and courts of general sessions twice a year, for the bor.: the assizes and three of the general quarter sessions of the co. are also held in the town.

Its ancient castle, in the last civil war, was at first garrisoned for Charles I., taken subsequently by the Parliamentary forces, and dismantled by order of Cromwell, in 1648. Caermarthen must, on the whole, be considered a flourishing and increasing town. A column has been erected at its W. end by public subscription in memory of the public services of Sir T. Picton, who fell at Waterloo, and had previously represented this bor. More recently, there has been another monument erected to the 23rd Welsh Fusiliers. The latter stands in Llammas-street.

CAERNARVON, a marit. co. of N. Wales, separated from Anglesea by the Menai Strait, extending from Conway, on the N., in a SW. direction along the shore to the extremity of the peninsula of Llleyn opposite Bardsey Island, having E. part of Cardigan Bay, and the cos. of Merioneth and Denbigh. Area, 848,160 acres; pop. 95,694 in 1861. This is the most mountainous co. in the principality, being traversed in its whole extent by the Snowdon range; it has, however, some limited tracts of comparatively low fertile land. The Conway, which has its sources in the co., and forms for a considerable distance the line of demarcation between it and Denbigh, is the principal river; but there are several streams of inferior dimensions,

and some small lakes. Lead and copper ores have been found within the co., and have been wrought to some extent. The slate quarries belonging to Lord Penryhn, near Bangor, employ about 1,600 men and boys, and are among the most extensive and valuable in the empire; and other slate quarries in this co. employ altogether about 1,700 men and boys. Soil of the greater part of the arable land hazelly loam. Agriculture, though a good deal improved, is still in a comparatively backward state; leases are either not granted, or they contain no proper regulations as to management; a proper rotation of crops is not generally observed; the land is not generally clean and in good heart; and the implements are still, in many instances, defective. Oats is the principal corn-crop. Breed of cattle small and hardy. The older class of farm buildings and cottages, especially the latter, are bad; but they have been in many parts replaced by others of a new and improved character. Manufactures unimportant. Principal towns, Bangor, Caernarvon, and Conway. Caernarvon is divided into 10 hunds, and 68 whole parishes, with parts of 5 others; and 4 registry districts and poor-law unions. It sends 1 mem. to the H. of C. for the co., and 1 for the town of Caernarvon and its contributory bors. Registered electors 2,271 in 1865. The gross rental assessed to poor-rate amounted to 180,652*l.* in 1862, and the annual value of real property assessed to income tax, 283,675*l.* in 1857, and 359,224*l.* in 1862.

CAERNARVON, a sea-port and parl. bor. of N. Wales, cap. of the above co., on the SE. side of the Menai Strait, at the mouth of the Seiont, 7 m. SW. from the Menai Bridge, and 205 m. NW. London by road, and 246 m. by London and North Western railway. Pop. 8,001 in 1841; and 8,512 in 1861. This town, with its magnificent castle, was built by Edward I., between 1282 and 1284, as a place of strength to secure his newly achieved conquest of Wales. The walls, constructed by the Conqueror, round the town, are still nearly entire. They are flanked with round towers, and had originally 2 principal gates, but others have been since added. Within the walls, the streets, though narrow, are regular; but of late years, new streets and buildings have been erected without the walls, and the whole town has been much improved: it is well supplied with water, and lighted with gas. Penant says of it, that it 'is justly the boast of N. Wales, for the beauty of its situation, the goodness of its buildings, the regularity of the plan, and, above all, the grandeur of the castle, the most magnificent badge of our subjection.' (Tour in Wales, ii. 404, 8vo. ed.) The par. church is $\frac{1}{2}$ m. from the town; but the latter has a handsome chapel of ease, and 4 dissenting chapels, and a British and a national school. The town-hall is over one of the ancient gateways, and one of the old towers is fitted up as a prison: there is also a co. hall, a small theatre, and a modern market-house for provisions, the old one being now used for corn. Many opulent families reside in the neighbourhood, and the town is much resorted to in the season by sea-bathers. There are hot and cold baths, assembly and billiard-rooms. Outside the walls is a fine terrace walk along the Menai.

There are no manufactures of any importance. The harbour, which has of late been a good deal improved, admits vessels of 400 tons, but the trade of the port, which is mostly with Liverpool, Bristol, and Dublin, is principally by small coasting vessels and steamers. The principal export is slate, brought from the quarries by a railway. The removal of the coast duties on slate occasioned a great increase of demand here and in other ports whence it is exported.

Previously to the Reform Act, Caernarvon returned 1 mem. to the H. of C., conjointly with the contributory bors. of Conway, Criccieth, Nevins, and Pwllheli, the right of voting being in the resident and non-resident burgesses. To these contributory bors. the Reform Act added Bangor. The limits of the ancient bor., with which the parl. bor. coincides, are about 8 m. in circ. Registered electors in all the bors. 926 in 1865. Gross annual value of real property assessed to income-tax 56,558*l.* in 1857; and 64,879*l.* in 1862. The limits of the municipal bor. extend about $\frac{1}{4}$ m. round the town. The assizes and general quarter sessions for the co. are held here. Market-day, Saturday; fairs, March 12, May 16, Aug. 12, Sept. 20.

Caernarvon Castle is one of the noblest and most magnificent ruins of its kind in the empire. The walls, which enclose an area of about 3 acres, are 7 ft. 9 in. thick, have within them a gallery with slips for the discharge of missiles, and are flanked by 18 strong pentagonal, hexagonal, &c. towers. A narrow chamber in the Eagle Tower was the birthplace of Edward II., the first Saxon prince of Wales. Near the steep bank of the river Seiont, at a small distance from the castle, is an ancient Roman fort, the walls of which are still pretty entire. At a small distance from this, and $\frac{1}{4}$ m. from the Menai, is the site of the ancient Roman station of *Segontium*, whence, it is most probable, Edward I. derived part of the materials for building the castle and town of Caernarvon.

CAERPHILLY, a town and chapelry of S. Wales, co. Glamorgan, hund. Caerphilly, par. Eglwys-islan, between the Taaf and the Rumney, 7 m. N. Cardiff. Pop. of the par. 3,978 in 1861. The town is an irregular collection of ancient and modern houses; but it has a good appearance, and being surrounded by mountain ranges that open on the E. and W., the scenery is grand and picturesque. It has a neat church, and three dissenting places of worship. Market, Thursday, and fairs for cattle, corn, and cheese, April 5, Trinity Thursday, July 19, Aug. 25, Oct. 9, and Nov. 16. Manufactures of cheques, and linsey-woolsey shirting for miners, employ about 100 persons; the rest are engaged in the mines and quarries of the neighbourhood or in agriculture. It was anciently a bor., but lost its privileges in the reign of Henry VIII. Its castle, whose magnificent ruins show that it must have been one of the finest in the kingdom, was of Norman origin, and enlarged at successive periods, but chiefly by the favourite of Edward II., Hugh De Spencer, for whom it was wrested from the Mortimers, its ancient possessors.

CÆSAREA, a ruined and deserted coast town of Palestine; lat. 32° 28' 87" N., long. 34° 44' 45" E. Under the Romans it was the cap. of the district in which it stands, and the residence of a proconsul. An artificial harbour, a castle, the walls of the city, and two aqueducts, are among the most perfect remains, but a great extent of ground is covered with the ruins of public and private buildings. It owed its existence, or importance, to Herod the Great, who named it *Cæsarea*, in compliment to Augustus, A.C. 22. It figures in the early history of Christianity as the place where Peter converted Cornelius and his house (Acts x. 1.), and as the scene of Paul's memorable speeches to Felix and Agrippa (Acts xxiv., xxv., and xxvi.). Vespasian made Cæsarea a Roman colony, under the name of Flavia Colonia, and it continued to flourish till A.D. 636, when it fell into the hands of the Saracens. In 1101 it was taken by the Crusaders, and in the wars of this period it sank never to rise again.

CAFFA. See KAFFA.

CAGLI (an. *Callis*), a town of Central Italy, prov. Urbino and Pesaro, at the foot of Mount Petraro, at the confluence of the Cantiano and Busso, 14 m. S. Urbino. Pop. 9,560 in 1861. It has a cathedral, and four convents for monks and four for nuns.

CAGLIARI (an. *Calariis*), a marit. city of Sardinia, of which it is the cap., on a bay of the same name on the S. shore of the island, lat. $39^{\circ}12'13''$ N., long. $9^{\circ}6'44''$ E. Pop. 30,960 in 1858. The city, in the middle ages, appears to have been restricted to a triangular space, on the summit of a hill about 400 ft. above the beach, now called the 'Castle,' which is walled round, and has a citadel on its N. side. To this were successively added the Marina, a portion extending down the W. face of the hill from the castle to the sea, which is surrounded by a slight wall, flanked by some bastions, and farther defended by a wide but shallow ditch; the quarter of Stampace, to the W. of the castle; and that of Villanova, to the E. The modern city consists of these four portions: there is besides a suburb, nearly a mile in length, called St. Avandrè. Cagliari has an imposing appearance from the sea. The Marina is tolerably well built, but Villanova quite otherwise; and the streets generally are narrow, irregular, dirty, steep, and paved with round pointed stones. There are, however, some excellent and even splendid public buildings, and many spacious private houses. The castle is the part in which the nobility and state officers reside. It contains the viceregal palace, a fine edifice: the cathedral, built by the Pisans, with a front in great part of marble; a handsome mausoleum of Martin, king of Sicily; a celebrated cryptic sanctuary; the citadel, and three large square towers, good specimens of Pisan art; the university, with its four faculties of theology, law, medicine, and philosophy, and between 200 and 300 students; and other public seminaries. The Marina is inhabited chiefly by merchants, and by the foreign consuls; it contains a good bonded warehouse, an arsenal, lazaretto, and mole. In Stampace are the corn-market and storehouses. Cagliari contains, besides about thirty churches, twenty-one convents, to one of which, belonging to the Jesuits, there is a very handsome and richly ornamented church attached; two hospitals, a female orphan asylum, a public library, with 15,000 volumes, museums of antiquities and natural history, a college of nobles, a *seminario*, a small theatre, and mint. At the S. angle of the Marina wall there is a very commodious *darsena*, or pier-harbour, capable of containing fourteen or sixteen vessels of a tolerable size, besides small craft. The port is one of the best and safest in the Mediterranean. Ships usually lie about a mile SW. by S. from the mole, in six or eight fathoms water, on an excellent bottom of mud. The Gulf of Cagliari, which extends from Pula on the W. to Cape Carbonara on the E., 24 m. across by 12 m. deep, has good anchorage everywhere, after getting into soundings. The city being placed on a hill, is healthy, notwithstanding the immediate proximity on its W. side of the stagnant lagoon of Cagliari, 6 or 7 m. long by 3 or 4 m. broad. This lake abounds with fish and aquatic birds. To the E. of the city there are some good salt-works. Cagliari possesses a royal manufactory of tobacco, and has manufactories of cotton fabrics, cake saffron, soap, chairs, and other furniture. Its trade is chiefly in corn, legumes, salt, oil, and wine. From the portion of commerce it enjoys, Cagliari has, on the whole, a busy appearance. Provisions of all kinds are cheap and plentiful, except water. The castle is supplied from cisterns and extremely deep wells. Extensive remains exist of a fine

ancient aqueduct, which might be restored at a comparatively small expense. There are several other Roman antiquities, including a tomb in tolerably good preservation, and an amphitheatre excavated in the rock near the city walls. Vestiges of the ancient Greek city may be still traced beyond Stampace. A good carriage road of recent construction connects Cagliari with Sassari.

Cagliari is the seat of a royal *audiencia*, or head tribunal, and of the *cortes*, or states-general of the island, of a tribunal of commerce, an intendant-general, a general-commandant, and an archbishop with the title of primate of Sardinia.

This city is very ancient, its foundation being carried back to the fabulous ages. It was the residence of the king of Sardinia, from 1798 to 1814, during the occupation of his continental dominion by the French. The latter bombarded it unsuccessfully in 1798.

CAHER, an inland town of Ireland, co. Tipperary, prov. Munster, on the Suir, 96 m. SW. by S. Dublin, on the railway from Limerick to Waterford. Pop. 2,926 in 1861, against 3,408 in 1831, and 3,288 in 1821. The whole of the inhabitants are Roman Catholics, with the exception, in 1861, of 103 members of the Established Church. The town is well built. There is a market-house, bridge, fever hospital, dispensary, schools on the foundation of Erasmus Smith, and large cavalry barracks. The staff of the Tipperary militia, and a party of the constabulary, are stationed here. The Earl of Glengall's mansion is in the town. Races take place annually in the neighbourhood. A manorial court is held every six weeks; petty sessions weekly. The linen and straw-plait manufactures are carried on upon a small scale; much is done in the corn trade. Markets are held on Fridays; fairs on 8th February, 12th April, 26th and 27th May, 20th July, 18th and 19th September, 20th October, and 7th December.

CAHORS, a town of France, dép. Lot, of which it is the cap., on the Lot, 60 m. N. Toulouse, on a branch of the railway from Paris to Agen. Pop. 13,844 in 1861. The town stands on an eminence, almost surrounded by the Lot, and is for the most part ill built, with narrow, crooked streets. It was formerly defended on the land side by towers and ramparts, that stretched across the isthmus; but of these only the ruins now remain. It is traversed by the great road from Paris to Toulouse, and has three bridges over the river, one of which, built in the twelfth century, is surmounted by three enormous towers. The cathedral has been supposed to be partly of Roman construction; but it is pretty certain that the most ancient part of the building is not older than the sixth century. With the exception of the hotel of the prefecture, the ancient episcopal palace, few of the other public buildings deserve notice. It is the seat of a bishopric, and has tribunals of primary jurisdiction and of commerce. Cahors had a university, founded in 1332: the famous jurist Cujas was, for a while, one of its professors, and Fenelon was of the number of its pupils. The university was united to that of Toulouse in 1751. At present it has an *académie universitaire*; a royal college, or high school, with about 250 pupils: a diocesan seminary, with 150 pupils; a primary normal school; a public library, with 12,000 volumes: a theatre; and a society of agriculture. The manufactures, which are not very considerable, consist principally of some descriptions of woollen goods and paper. There is contiguous to the town a departmental nursery. The excellent red wine called the *vin de grave* is raised in its territory; and it has a good deal of trade in that and other wines, and in oil, hemp,

flax, and nuts, largely grown in the neighbourhood.

Cahors is supposed to be the ancient *Divona*, the capital of the *Cadurci*. The Romans embellished it with several fine edifices, of some of which there still remain a few vestiges. The principal of these are a portico, supposed to have made a part of the public baths; with the ruins of a large theatre or circus, and of an aqueduct for conveying water into the town. There have also been dug up fragments of columns, mosaics, and numerous medallions of Tiberius and Claudius. In more modern times it has undergone many vicissitudes. In 1580 it was besieged by Henry IV., and being taken, after an obstinate resistance, it was, despite Henry's efforts to the contrary, given up to military execution. Cahors is the birthplace of three famous men, widely different in their spheres of life,—of Pope John XXII., of the poet Clement Marot, and of Napoleon's dashing general Murat, king *pro tem.* of Naples.

CAIPHA, or KAIFA, a small marit. town of Palestine, at the foot of Mount Carmel, on the W. side of the Bay of Acre. The harbour is one of the best along the coast (see ACRE), and the ancient river Kishon flows past the town. It has a fortress with a garrison; but the most important and interesting building in the place is a hospice maintained by the monks of Mount Carmel, where strangers of all nations and religions are lodged and entertained. The Kishon is referred to in the song of Deborah and Barak (Judges v. 21.). It is famous also as the place where Elijah slew the prophets of Baal (1 Kings xviii. 40.).

CAIRO, or KAHIRA (*El Cha'irah*, Arab., 'the Victorious,' called by the inhabitants *Musri*), the modern cap. of Egypt, and the second city of the Mohammedan world; chief residence of the Pacha, and seat of his government, near the right or E. bank of the Nile, about 12 m. above the apex of its delta, 112 m. SE. Alexandria, 97 m. SSW. Damietta, and 75 m. W. Suez; on the railway from Alexandria to Suez. Pop., including the port of Boulac and Old Cairo, about 240,000; of whom about 190,000 are Egyptian Moslems, 10,000 Copts, from 3,000 to 4,000 Jews, and the rest strangers from various countries. Shape oblong, being nearly 3 m. in length, by $\frac{1}{2}$ to 2 m. in breadth, on sloping ground, midway between the Nile and the E. mountain range of Mokattam, and occupying an area of about 3 sq. m. The distance of its N. extremity from the Nile at Boulac is upwards of a mile; but from its S. extremity to the bank of the river where Old Cairo stands, is somewhat less than $\frac{1}{2}$ m. The intervening tract is laid out in gardens or otherwise cultivated, and watered by a canal. Viewed from a distance, Cairo has a magnificent and interesting appearance; but, like most other E. cities, its interior has a very different aspect from its exterior. It has, however, though still susceptible of much improvement, been, within these few years, quite changed from the wretched place so often depicted by travellers. Filth, of every description, putrid ditches, drains never cleaned, unburied carrion, fragments of vegetable matter, all in various states of decomposition; want of free circulation of air, clouds of dust, and multitudes of deformed beings, are amongst the nuisances formerly complained of; but, according to more recent observers, the rigid police established by the viceroys of Egypt has already effected so desirable a change, that, for cleanliness, as well as order, quiet, and the absence of crime, Cairo may now rank with the best governed capitals of Europe.

Cairo contains 240 principal streets, 46 public places (squares), 11 bazaars, 110 schools for the

instruction of children, 800 public cisterns, 1,166 coffee-houses, 65 public baths, 400 mosques, and several considerable hospitals. The whole city is enclosed by a stone wall, terminated on the SE. by a detached and scarped rock rising more than 200 ft. above the level of the Nile, on which stands the citadel. This fortress, with the city walls, was built or restored by Saladin, about 1176. The walls have battlements, and lofty towers at about 100 yards apart. They are, however, of little strength, and have been suffered, in many parts, to fall to decay. There are four gates, praised for their grandeur and magnificence. The streets are partly unpaved, and mostly crooked, narrow, and irregular. Though deprived of a great deal of light, they are rendered cool, by the upper stories of the houses projecting over them, so as not unfrequently to meet each other. The Jewish quarter is, as in all other cities, the filthiest; the Copts, Franks, and other nations, generally speaking, inhabit distinct quarters, though there is no restriction in this respect, the whole city being free to all. In the Frank quarter, where also many of the Armenian and Syrian Christians reside, the streets are rather wider than elsewhere. The houses are solidly constructed and lofty, being mostly two stories high, and frequently more; their lower parts are built or cased with the soft calcareous stone of the Mokattam mountains, the layers of which in front are often painted alternately red and white; their upper parts are commonly of brick; their roofs, which are flat, serve for many domestic purposes, and are the resort of the family in the cool of the evening. Most considerable houses enclose an open unpaved court, into which the doors and the windows of the principal apartments open. The windows of the upper apartments generally project $\frac{1}{2}$ ft. or more, and are commonly formed of wooden lattice-work close enough to shut out much of the light and sun, and to screen the inmates from observation, while they admit the air; occasionally glass windows, which sometimes are finely stained, are made use of. The front doors of the larger houses are handsomely carved, painted, decorated with Arabic inscriptions, and furnished with iron knockers and wooden locks. The court-yard and ground floors commonly contain wells, fountains, pools, stables, and other domestic offices, and a hall sometimes very handsomely fitted up, in which the master of the house receives his visitors; the upper apartments are those of the women and children. Lodging-houses or caravanseras, called *wakalehs*, and designed for the reception of merchants and their goods, are somewhat differently laid out; and such persons as have neither a wife nor a female slave are usually obliged to take up their abode in one of these buildings. There are several open spaces or squares: *Esbekiah*, the principal, is surrounded by many of the finest palaces and other structures in Cairo; its centre is laid out as a garden, and is, like some of the other squares, annually overflowed by the inundation of the Nile. The waters of that river are conducted into the city by a canal, believed to be the *Amnis Trajanus* (ΤΡΑΙΑΝΟΣ ΠΟΤΑΜΟΣ) of Ptolemy's Geog. (lib. iv. c. 5), and which, commencing at Old Cairo, runs through the whole length of the modern town, filling a number of public and private basins, and irrigating numerous gardens planted along its banks. The citadel is, in many respects, one of the most interesting monuments in Cairo. It is believed to stand upon the spot once occupied by the Acropolis of the Egyptian Babylon, erected by Cambyzes upon the site of the still more ancient Latopolis, a city almost as old as Memphis. This much seems certain, that a similar structure existed here previously to the

time of Saladin, to whom the restoration, rather than the construction, of the citadel should be ascribed. The rocky hill on which it is built is separated by a chasm about 400 yards wide from the Mokattem hills. Its walls are massive, rest on a foundation of scarped rock, and have been put into a respectable state of repair; but, being commanded by the Mokattem hill, on which a fort has been placed, and being open both on the E. and W. to the fire of artillery, it could not hold out for any length of time against a European force. Within its precinct are the palace and harem of the pacha, the mint, the council-chamber or divan, a mosque built by Mehemet Ali, a military arsenal, and various other public offices and works of the Mameluke monarchs. The pacha's palace and harem are plain white-washed buildings, presenting nothing remarkable, and the new mosque has some bas-reliefs in marble imported from Genoa. The arsenal contains foundries for brass and iron cannon, manufactories of small-arms, and workshops for the supply of all sorts of military equipments. Taken altogether, it is the finest establishment in Egypt. But the greatest curiosity in the citadel is Joseph's Well, supposed to have been dug by Saladin. It is 45 ft. in circ. at its mouth, being cut through soft calcareous strata to the depth of 276 ft., or to the level of the Nile, from which its water is most probably derived. A winding staircase conducts to its bottom. From the ramparts of the citadel is displayed a noble panorama. To the E. are seen the obelisk of Heliopolis and the tombs of the Mamelukes, backed by an arid desert; to the S., the lofty quarries of Mount Mokattem, with ruined castles, mouldering domes, and the remains of other edifices, above, below, and stretching beneath the heights far into the plain: SW. and W. are the grand aqueduct, mosques, and minarets, the Nile, the ruins of Old Cairo, and the island and groves of Rhoda; beyond the river, on the SW., the town of Ghizeh, amidst groves of sycamore, fig, and palm trees; still more remote, the pyramids of Ghizeh and Saccara; and beyond these the great Libyan desert. NW. and N., may be discovered the green plains of the delta, sprinkled with white edifices; and N. to N.E., at the feet of the spectator, is the city of Cairo, surrounded in the latter direction by heaps of sand. In 1811, this fortress was the scene of the massacre of the Mamelukes, by order of Mehemet Ali. In 1824, 4,000 individuals, and a great portion of the citadel, were destroyed by the explosion of a powder magazine.

Much yet remains in Cairo to evince the success with which the dynasties of Mussulman princes, who governed Egypt previously to the Ottomans, strove to beautify this city; and we might look in vain throughout the modern Saracenic world for any works at all approaching in excellence the metropolitan mosque of El-Azhar, with those of Sultan Hassan, the Muristan, Hassan Ain, El Ghoree, and Zittezenab, the gate called Babel-Nasr (*Gate of Victory*), and one or two of the other gates; the aqueduct on the road to Old Cairo, and the tombs of the Mamelukes. The principal mosque—that of El-Azhar, or Lazarus—is in the middle of the most populous quarter. That of Sultan Hassan, said to be a work of the 13th century, is the largest mosque; its dome is considered the finest in Cairo, and beneath it, in its interior, is the handsome tomb of the sultan whose name it bears. The body of the mosque is closed by a bronze door beautifully inlaid with silver, and is surrounded by a large open square court, with shrines under fine bold arches. This mosque is also remarkable for the height of its two minarets, the variety of marbles used in its

construction, its arabesque ornaments, mosaics, and inscriptions. The mosque of Taglioum is the most ancient of all, having been erected about 887, by the sultan Achmed Ebn Taglioum, the founder of a new dynasty in Egypt, nearly a century before the city of Cairo was built. It consists of a vast open court surrounded by a colonnade of marble and granite pillars, supporting a double row of arches of the latest Saracenic style, and bearing a great resemblance to the Patio de los Naranjos adjoining the mosque at Cordova. It contains rich and delicate carving, but is now much neglected. The mosque of Hassan Ain, on the contrary, is greatly thronged, being considered by far the most holy in Egypt, and surpassed in sanctity by few in the Mohammedan states. Outside the walls of the city, and between them and the Mokattem hill, are the celebrated tombs of the Mameluke sovereigns, some of which are fine bold specimens of the Arabic style of architecture of the 18th and 14th centuries: they are chiefly of white marble, and abound with fine arabesque ornaments and carving. There are several other cemeteries in different parts of the environs.

Old Cairo, which is believed to have succeeded to the town and fortress of the Egyptian Babylon, is chiefly occupied by Copts: it contains twelve Christian churches, some of them large and sumptuous buildings; the ancient granaries, bearing the name of Joseph; a grotto castle, and a machine for raising the water of the Nile into the ancient aqueduct. This, which is exclusively appropriated to the supply of the citadel with water, is raised on arches, and proceeds from Old Cairo by a winding course, and a length of about 2 m. Boulac, the port of Cairo, contains the principal manufactures, and is the seat of most of the trade. Along the banks of the Nile, between Boulac and Old Cairo, embosomed in groves of orange, sycamore, and acacia, are a number of handsome palaces, the most conspicuous of which is that belonging to Ibrahim Pasha. This palace is built in the Turkish style, and contains some handsome apartments, gaudy furniture, and a large collection of Egyptian antiquities. Its extensive gardens and plantations occupy the plain between it and Cairo; towards the Nile the grounds are laid out in terraces ornamented with statuary, which give them quite a European appearance. In the Nile, immediately opposite Cairo, are the two considerable islands of Boulac and Rhoda; the latter, which is nearly 2 m. in length, is almost entirely the property of Ibrahim Pasha, and is laid out as pleasure-grounds open to the public. Its S. extremity, however, between Old Cairo on one bank and Ghizeh on the other, is occupied by powder magazines and mills. Here also is the celebrated Nilometer, a graduated pillar in a large square well, having a subterranean communication with the river. From a court leading to this structure a flight of steps descends to the water, called the Steps of Moses, from a tradition of that being the spot where the deliverer of the Jews was found amongst the bulrushes.

Most of the higher class of Turks, and individuals holding chief public employments, have their residences in Cairo, where they live in much splendour. These are principally in the square of *El Feskehiah*; it was in the garden of one of these that the French general Kleber was assassinated. Some of the public baths are very spacious, and greatly ornamented; and several public fountains are worthy of notice. There are about twenty stone bridges over the canals of the city and plain, but none worthy of special notice. The

coffee-houses are generally very plain, and the shops are merely small recesses capable of holding two or three persons. Each separate bazar is usually devoted to one kind of commodity.

Within the city the late viceroy, Mehemet Ali, established an extensive cotton factory; a gun factory, furnishing annually 10,000 muskets; a manufactory of saddles, bridles, knapsacks, belts, and every other leather equipment required for the army; a copper-mill, and machinery for boring gun-barrels, both driven by steam; a paper-mill and other factories, which have continued to flourish under the patronage of his successors. There are also large gunpowder and saltpetre factories in the neighbourhood, and a large tan-yard on the road to Old Cairo. These establishments supply the clothing and accoutrements required for the army and navy of Egypt as well as most articles in common use throughout the country.

Cairo has always been, and still is, the seat of the best schools for Arabic literature and Mohammedan theology. The mosque of El Azhar has attached to it a library and college, where lectures on the Koran, law, ethics, mathematics, and medicine are delivered to students. There are 3 primary schools in Cairo, which afford education to 600 boys, who are also clothed and fed. At Boulac there is a school of engineers, with 180 pupils. At Abousabul, within a mile of the city, is a preparatory school, with 1,500 pupils; a school of medicine, with 200 students; a veterinary school at Shoobra; a school for accountants; and schools for the artillery and cavalry service at Ghizeh, and elsewhere in the vicinity. The prejudice against these schools was at first so strong that the government was obliged to resort to compulsion to obtain scholars, and to give them regular pay. The latter is still continued; but compulsion is no longer necessary to obtain pupils. Regimental schools are also established, and primary schools are attached to the greater number of the mosques. There is a printing press at Boulac, from which a weekly paper in Arabic issues; and at which many popular works in history and science are printed for the use of students. The principal charitable institutions in and near Cairo are—a military hospital, in the square of El Esbekiah, capable of accommodating 1,000 patients; another large military hospital, about a quarter of a league from the city, composed of four ranges of buildings, enclosing a square, and containing 64 spacious apartments, with 40 beds each; museums of physic and natural history; a chemical laboratory, and all necessary offices. In the city is a hospital for the Egyptian navy, with two general hospitals; and a lying-in hospital, under the direction of a French female practitioner, with a number of pupils.

Most European nations have vice-consuls resident at Cairo; it is the seat of the patriarch of the Coptic church: there are both Roman Catholic and Greek convents, presided over by dignitaries called patriarchs; and two English missionaries are established in the city. There are, however, comparatively few European inhabitants in Cairo, and they are for the most part poor and without influence. The city is usually garrisoned by two regiments of 4,000 men each, one stationed within the citadel, and the other encamped outside the walls.

The neighbourhood of Cairo abounds with places and objects possessing great interest. The pyramids, and the remains of the city of Heliopolis, the *Om* of the Scriptures, are treated of under the articles *GHIZEH* and *EGYPT*. About 2 m. N. from the city, the country palace of Shoobra, belonging to the pacha, is pleasantly situated on the bank of

the river, and connected with Cairo, for the whole distance, by a fine avenue of acacias and sycamores. A few m. to the N.E. of Shoobra is the scene of the victory obtained by Kleber over Yousef Pacha, in 1800.

Cairo is supposed to have been founded by Jauhar, an Arab general under the first Fatimite caliph, in 970. The caliph Moez afterwards made it the capital of his dominions, which distinction it retained till the overthrow of the Mameluke sovereignty by the Turks, in 1517. It was the residence of the pacha of the Turkish province of Egypt till 1798, when it was taken by the French, who retained it until its capture by the English and Turks in 1801. Not long after the re-instatement of the Turkish rule in Egypt, Mehemet Ali became viceroy; and under him Cairo once more became the capital of a virtually independent and extensive empire.

CAITHNESS, a marit. co. of Scotland, occupying its N.E. extremity, having W. Sutherland, and N.E. and S. the ocean. Dunnet Head, on the N. shore of this co., lat. $58^{\circ} 40' N.$, long. $8^{\circ} 22' W.$, is the most northerly point in G. Britain: area 712 square miles, or 455,708 acres, of which above 90,000 are cultivated, 6,400 waste, and the remainder mountains, moors and mosses. The mountains lie principally along the confines of Sutherland, terminating to the S. in the stupendous precipice called the Ord of Caithness. But with this exception, the rest of the country is mostly undulating or flat, consisting principally of vast tracts of mossy moors, covered with low stunted heath, and destitute of wood. Principal rivers, Thurso, Wick, and Dumbeth. Owing to its being nearly surrounded by the sea, the winters are less severe than might have been expected, but the summers are in general cold and wet. Property in a few hands, and mostly entailed. Farms often small; and the practice of underletting and of stipulating for payment of a portion of the rent in services of various kinds used to be very prevalent. These practices are now, however, on the decline; and notwithstanding its remote situation, this co. has astonishingly improved within the present century, by the opening of new roads, consolidating small farms, taking in waste land, improving the breeds of cattle and sheep. A great number of superior farm-houses and offices have been constructed of late years; but, generally speaking, the huts of the peasantry are still poor and miserable. Oats, bear or bigg, and potatoes, are the principal crops. Wick and Thurso, its only towns, are, at present, the principal seats of the British herring fishery. Limestone is abundant, and is burned with turf. The inhab. of Caithness are of Scandinavian or Gothic origin; and, except along the border of Sutherland, Gaelic or Herse is neither spoken nor understood. All ranks and orders speak English. Caithness contains 10 par., and had, in 1861, a population of 41,111, living in 7,457 inhabited houses. It sends 1 mem. to the H. of C. for the co., and Wick unites with other boroughs in returning a representative. Co. constituency 512 in 1865. The old valued rent was 2,970*l.*; the new valuation for 1864-5 was 102,039*l.* The gross annual value of real property assessed to income tax was 81,712*l.* in 1857, and 102,016 in 1862.

CAJAZZO, a town of Southern Italy, prov. Caserta, cap. cant., on a hill near the Volturno, 11 m. N.E. by E. Capua. Pop. 6,200 in 1862. The town is very ancient, and is defended by a castle built by the Lombards. Besides a fine cathedral, it has several other churches, with convents, a college, a hospital, and a seminary. Its territory produces good wine.

CALABOZO, an inl. town of Venezuela, prov. Caracas, in the *llanos*, near the Guarico river, 11 m. N. by E. Capau; lat. $8^{\circ} 55'$ m. N., long. $67^{\circ} 42'$ W. Pop. 5,000. It has a good church, and several villages surrounding it: many of its inhab. are prosperous cattle-farmers. The pools in its neighbourhood swarm with electric eels.

CALABRIA, a former prov. of the Neapolitan dominions, the most S. portion of the kingdom of Italy, between $37^{\circ} 46'$ and $40^{\circ} 7'$ N. lat., and $15^{\circ} 39'$ and $17^{\circ} 13'$ E. long.; having N. the prov. Basilicata, NE. the Gulf of Taranto, SW. the Strait of Messina, and in the rest of its extent the Mediterranean: it comprises the chief of the two peninsulas at the extremity of Italy, and forms what is called the foot of the Italian boot.

In most points, Calabria affords a striking contrast to the peninsula of Otranto, on the other side of the Tarantine Gulf; its shores are extremely irregular, and present many capes or headlands; the principal are those of Colonne and Rizzuto, on the E.; Spartivento, on the S.; and Vaticano, on the W. coasts: the principal gulfs are those of Taranto (which it assists in forming) and Squillace, on the E.; Gioja and S. Eufemia, on the W. shores. By far the greater part of Calabria is mountainous; the principal Apennine chain enters it at Mount Pollino, and runs at first S. near the shore, as in N. Italy, then E., and lastly in a SW direction to its extremity. It gives off a lofty and remarkable branch to the E., the Silese mountains, which occupy most of the central and wider region of Calabria. The Apennines here attain a greater height than in the central prov. of the king. of Naples, and the summits of many of them are covered with snow from Dec. till March. Monte Sila is 4,632 ft., Monte Alto (Aspromonte), 4,110 ft., and the pass of Nicastro, 3,246 ft. above the level of the sea.

The plains are few, and of no great extent; the largest are in the NE., on the banks of the Crati and Coseile, and on the E. coast; in the W. the lowlands consist of only a succession of narrow valleys. The mountain streams are numerous, discharging themselves into both seas; the larger rivers, which, however, require no particular notice, are mostly in the central parts of Calabria. There are many small lakes around the E. shore, but none worthy of especial notice. Calabria produces corn, rice, oil, wine, *agrumi*, and fruits of every kind; silk, sugar, manna, wild honey, tobacco, saffron, resins, liquorice, many medicinal plants, and dyes; forests of oak, elm, and chestnut; it has also veins of gold and silver, iron, marble, and alabaster; and yields besides crystal, rock salt of the purest kind, and sulphur. Great numbers of fish surround the coasts, and game abounds in its forests. No part of Europe presents more magnificent scenery than Calabria. On entering it from the N., at Monte Giordano, the undulating hills are lost; the Apennines assume a bold and steep character, and are broken by deep hollows and ravines, and clothed with forests of massive timber. The Brutian forest of Sila, which occupies to a great extent all the S. part of C. Citra, and the N. of C. Ultra II., consists of oak, elm, sweet chestnut, beech; and pine and fir toward the summits of the mountains: in other parts the Apennines are covered almost to their tops with woods of fine cypress, laurel, hazel, olive, orange, and cedar trees; near Cariati the manna ash prevails. There are many pastures, however, in the region of La Sila; but habitations are very thinly scattered through it, and towns or hamlets are very few. Around the coast of Calabria Citra there are some cultivated tracts: that near Roseto yields olives, capers, saffron, corn, and cotton, on

the high lands near the sea; the latter is cultivated also at Cassano. Trees are wanting on the banks of the Neto, and the country about Cotrone is one of the most uninteresting in Calabria. From Cantanzaro to Squillace the ground is level; the soil full of broken shelly deposit, and fertile in corn, maize, and mulberry-trees. At Chiaravalle the field are cultivated with flax; the vines are few, cherry orchards numerous, and hedges of holly, woodbine, and sweet-briar, and banks of hearts-ease, and wild strawberry. S. Calabria has many towns and villages, various culture, and fine woods; its scenery is decidedly superior to that of Sicily. The environs of Reggio are celebrated for their beauty, and its neighbourhood is well stocked with cattle; from Tropea to Monteleone the country is like a park, but quite unenclosed, adorned with large clumps of olive-trees. Thence to the Apennines is a wooded vale, through which the Angitola winds; beyond this is a marshy country; and on the banks of the Amato is the field of Maida, celebrated for the action fought there in 1806. N. of Nicastro the main road passes through a fine plain embraced by the mountains, and on the high grounds hence to Cosenza the breaks in the woods display on either side views of wooded vales, sprinkled with towns and villages, and the sea beyond. Some flat grounds prevail N. of Cosenza, as on the banks of the Crati, which are fertile in corn, vines, and mulberry-trees, but subject to malaria; towards the Gulf of Policastro there is a tract of pasture land, feeding many flocks of sheep.

Calabria is subject to earthquakes: a most terrific visitation of this sort occurred in 1783, which swallowed up a great many towns and villages. Near S. Basile there are traces of former volcanoes, and the soil is one mass of lava. Several spots are renowned for the events of ancient history; numerous are the sites of ancient Greek cities, as Sybaris, Crotona, &c.; near Cape Vaticano Sextus Pompeius defeated at sea the navy of Augustus. Alaric the Goth, the conqueror of Italy, was buried under one of the tributary streams of the Crati. No Italian prov. of equal extent possesses so many Gothic remains.

The arts and manufactures of Calabria are in a very depressed and backward state. Silkworms are cultivated largely in some places, and silk is produced in tolerable quantity, and of good quality. It has a darker colour than in other Neapolitan provinces, in consequence of feeding the worms on the leaf of the red mulberry, which prevails in every part of this territory. The condition of the peasantry was formerly very bad, but has been greatly ameliorated since the incorporation of the Neapolitan dominions with the kingdom of Italy. Nevertheless, numerous bands of robbers continue to show that the old lawlessness of despotism has not yet been overcome; while smuggling is very prevalent, and outlaws and mendicant friars are both abundant.

The peasants are neither so tall nor so good-looking as those of the rest of Italy. The outline of their faces is African; their complexion a pale olive, or copper-colour; their hair coarse, black, and frizzled; but they have beautiful teeth, and their countenances are expressive, and mixed with a look of melancholy and wildness. They are vigorous, agile, active, and nervous; quick, gay, courageous, faithful, and hospitable; but irritable, and prone to passion. In the N. a solidity, like that of the Germans, is manifest in their disposition; while, in the S., their manners approach more to those of the Greeks. Many Greeks reside in S. Calabria, who are much handsomer in their persons and dress than the Calabrese. The dress

of the latter varies; in the S. it is like that of the Sicilians, and bounnets are worn; in the N. they wear hats; the men dress in a short close jacket, and close hose, both of black cloth; leathern gaiters, and shoes of undrest skin, tied with thongs of the same; or else in a coarse long jacket, coming down far below the waist; wide hose full of plaits; and ill-cut gaiters of coarse cloth, fastened across with cords: the females wear a large full-plaited petticoat of dingy scarlet. The Calabrese speak a peculiar Italian dialect, pronouncing the *d* and *t*, the *p* and *b*, alike. They are generally poor; the marriage portion of a girl is frequently only a small piece of vineyard, or even a single fruit-tree. Gipsies are numerous, occupying themselves in making small iron articles.

Before the dominion of the Romans, Calabria was subdivided into many republics, forming part of Magna Græcia, a region that comprised all Italy S. of Naples. After the fall of the Western empire, it fell successively under the rule of Odoacer, Theodoric, and subsequently of the Greek emperors, who possessed it till the year 929, when the Arabs, from Sicily, established themselves in a few forts, whence they extended their rule over the rest of the province. A century and a half afterwards it was conquered by the Normans, when it formed a part of the dominions of Robert Guiscard, duke of Apulia, with the history of which province its own is subsequently connected. At the reorganization of the old provinces, under the government of the king of Italy, in 1861, Calabria was divided into the three new provinces of Cosenza, Reggio, and Catanzaro.

CALAHORRA (an. *Calagurnis Nasica*), a city of Spain, prov. Soria, on the Cidacos, near its confluence with the Ebro; 24 m. SE. Logroño, 43 m. SSW. Pampeluna. Pop. 7,106 in 1857. The city has a cathedral and an episcopal palace. The neighbourhood produces grain, pulse, hemp, flax, fruit, wine, and oil. This was a Roman town of some note, the reputed birthplace of Quintilian.

CALAIS, a sea-port town of France, dép. Pas-de-Calais, cap. cant., on the Straits of Dover, 20 m. NNE. Boulogne, on the Northern Railway of France. Pop. 12,934 in 1861. The town is of a square form, and is well fortified; being surrounded by walls and bastions, and protected on the W. side by a strong citadel, commanding the town and harbour, and towards the sea by several forts; the country round may also, in case of necessity, be laid under water by means of sluices. It is generally pretty well built, the houses being of brick, and the streets broad and straight. It labours under a deficiency of spring-water, the want of which is but indifferently supplied by the rain-water collected in cisterns. In the middle of the town is the *place d'armes*, having round it several good houses, and a handsome Hôtel de Ville. The gate on the road to Paris, constructed in 1685, is a fine piece of architecture. The parish church, erected by the English, is a large, fine building, with a lofty spire. A tower, near the Hôtel de Ville, serves as a light-house; the light, which is revolving, being elevated 118 ft. above the level of the sea. A pillar has been erected on the spot where Louis XVIII. landed on his return to France in 1814. The Hôtel Dessin, comprising, besides an excellent inn, a theatre, public baths, and a posting establishment, is the finest building in the town. The ramparts, which are planted with trees, form an agreeable promenade. Calais derives its principal importance from its being the nearest French port to England: it is only 20½ m. from the South Foreland, and 22½ m. from Dover, with which, and London, and other English ports, it

has daily steam communication. The mail steamers from Dover, which arrive twice a day, makes the passage in about one hour and a half. The total number of passengers embarking and disembarking at Calais amounted to 123,053 in the year 1863. (Report of Mr. Consul Hotham on the Trade of Calais.) The entrance to the harbour is between two piers, nearly ½ m. in length. Excellent anchorage ground exists in the outer road, from 2 to 3 m. NW. from the harbour. There are, a tribunal of commerce, schools of hydrography and design, and a public library, with 12,000 vols. Manufactures of lace employ some 8,000 hands, chiefly in the suburb of St. Pierre-les-Calais. Vessels are fitted out for the cod, herring, and mackerel fisheries, and a considerable trade is carried on in salt and spirits; while the town derives much benefit from the resort of travellers to and from England. It communicates with the Aa, and consequently with St. Omer, by means of a canal about 21 m. in length.

Edward III. took Calais, after a lengthened and memorable siege, in 1347. The obstinate resistance made by the besieged so much incensed the conqueror, that he determined to put to death six principal burgesses of the town, who, to save their fellow-citizens, had magnanimously placed themselves at his disposal. But he was driven from it by the tears and entreaties of Queen Philippa. The English retained possession of Calais for more than two centuries, or till 1558, when it was taken by surprise by the Duc de Guise. In 1596 it was taken by the Archduke Albert; but in 1598 was restored to France by the treaty of Vervins. It deserves to be mentioned, to the honour of Calais, that it is one of the very few towns of France in which no individual lost his life on account of politics during the Revolution.

CALAIS (St.), a town of France, dép. Sarthe, cap. arrond., on the Anille, 26 m. ESE. Mans. Pop. 3,736 in 1861. The town has a fine Gothic church, a large square or place, and two promenades; and is the seat of a tribunal of primary jurisdiction, and of a communal college. There are manufactures of serges, linen, and cotton stuffs, with tanneries and glass-works. The country round is barren, being principally occupied with heaths and forests.

CALASCIBETTA, a town of Sicily, val. Calatanisetta, cap. cant., 15 m. NE. Calatanisetta. Pop. 5,069 in 1862. There are in the environs numerous caverns.

CALATABELLOTA, or CALTABELLOTA, a town of Sicily, val di Girgenti, on the summit of a lofty mountain near to, and overlooking, the course of the river of the same name, 10 m. NE. Sciacca. Pop. 5,624 in 1862. The town is very difficult of access. *Tricala*, a strong city of ancient Sicily, was situated within a short distance of the modern town. This city is famous in history, from its having been the stronghold of the revolted slaves during the dangerous servile insurrection that broke out in Sicily, 104 or 105 years B.C. Owing to the strength of the city, and the talents of their leader Athenio, the insurgents were able to defend themselves for four years; and were not subdued till a considerable army, headed by Aquilius, the colleague of Marius, was sent against them. (Ancient Universal Hist., xiii. 20, 8vo. ed.) In more modern times, Roger I. defeated the Saracens, with great slaughter, in the vicinity of this town.

CALATAFIMI, a town of Sicily, val di Trapani, cap. cant., 7 m. SW. Alcamo. Pop. 9,603 in 1862. The town is ugly and ill built. Its castle, now in ruins, stands on the summit of a

hill, in a commanding situation. The environs are well cultivated.

CALATAGIRONE, or **CALTAGIRONE**, a town of Sicily, val di Catania, cap. distr., on the declivity of a mountain, 35 m. SW. Catania. Pop. 23,672 in 1862. The town stands in a salubrious situation, and is said to be the richest and best governed city of Sicily. Streets clean, spacious, well paved, and tolerably lighted; many of the palaces and other public buildings are handsome, and the market is well supplied with provisions at moderate rates. It is the seat of a bishopric; has several churches and convents, a royal college, a hospital, and an orphan hospital. The inhabitants are industrious, and have made the greatest proficiency of any in the island in the useful arts. A kind of soft argillaceous earth is found here, and manufactured into tolerable imitations of the Saxon porcelain; groups of figures, in the various costumes of Sicily, are also formed from it with infinite taste. The neighbourhood affords saffron and yellow ochre, bistre, soda, and other colouring materials. A grand festival and fair is held for fifteen days in October, during which great sales are made of cattle, cloth, honey, wax, poultry, and agricultural produce. It is supposed, from the existence of sepulchres and other remains of antiquity, to occupy the site of the *Hybla Hærea* of the ancients.

CALATANISETTA, a town of Sicily, cap. prov. of the same name, in a large and fertile plain, near the right bank of the Salso, 62 m. SE. Palermo. Pop. 18,511 in 1862. The town is well built; has broad and straight streets, a fine square; is defended by a castle, and has a civil and criminal court. In its environs, at a place named Terra Pilata, are two saltes that emit hydrogen gas.

CALATAYUD (an. *Bilbilis*), a city of Spain, Aragon, cap. district, on the Jalon, at its confluence with the Jiloca, at the foot of a hill, 45 m. SW. Saragossa, 115 m. NE. Madrid, on the railway from Saragossa to Madrid. Pop. 9,830 in 1857. The town has a large square, full of shops; pleasant and shady promenades, a fountain with eleven *jets d'eau*, and a magnificent *lavadero*; an episcopal palace; a hall for the meetings of the Junta; a house of industry, two hospitals, and barracks for 4,000 troops. Streets and houses regularly built; there are three bridges over the river. It has several elementary schools, and two grammar-schools, with manufactures of common cloths, brown paper, and leather. The soil abounds in cathartic salts, and there are several chalybeate springs, and extensive caverns, from whose roofs hang concretions, said to be sulphate of lead. This was a Roman town, and is celebrated as being the birthplace of Martial, who has eulogised its manufactory of arms.

CALATRAVA LA VIEJA, in Spain, the remains of the ancient city of Calatrava, the *Oretum* or *Oria* of the Romans, on the Guadiana, prov. La Mancha, 12 NE. Ciudad Real, 15 m. N. Almagro. The order of the Knights of Calatrava had its origin here. The city being menaced by the Moors, in 1158, was abandoned by the Templars, who had held it for ten years, and Sancho III. promised it to any one who would undertake its defence. Raymond, abbot of Fitero, and Diego Velasquez, offered themselves for the task, and were furnished with money, arms, and munitions. A crusade was proclaimed, and plenary indulgences were granted to all who should be found at the defence of Calatrava. The Moors, alarmed at the report of these preparations, abandoned their enterprise, and Velasquez, in his turn, made several incursions into their territories. On this, the king confirmed the grant, with new

donations. The order was then regularly organised, in two classes, one for the service of the choir, and the other for the field; but the knights, on the death of Raymond, separated themselves from the monks, and chose a grand master distinct from the abbot, who returned with his monks to Fitero. The knights subsequently acquired great fame and riches in their contests with the Moors; but having sustained serious reverses, and quarrelling among themselves, the pope adjudged the grand-mastership in perpetuity to the crown of Spain.

CALCUTTA, a celebrated city of Hindostan, prov. Bengal, cap. of the British dom. in the East, and seat of the supreme governm., in a level tract on the E. side of the Hooghly river, an arm of the Ganges, about 100 m. N. of the Bay of Bengal; lat. 22° 23' N., long. 88° 28' E. Pop. 413,182 in 1861, of whom 274,385 Hindoos, and 110,918 Mahometans. This pop. is exclusive of about 180,000 dwellers in the environs who come daily into the city. On approaching Calcutta from the sea, the stranger is struck with the magnificence of its appearance; the elegant villas on each side of the river; the government botanical gardens; the spires of the churches and temples, and the strong and regular citadel of Fort William. Including Fort William, the Esplanade, &c., Calcutta extends along the bank of the river, from Kidderpore to Cossipore, a distance of 6 m., with a variable breadth, but averaging about 1½ m. A handsome quay, called the Strand, is continued for 2 or 3 m. along the bank, from the point at which the esplanade meets the city: it is raised 40 ft. above low water mark, and furnished with about thirty principal *ghauts*, or flights of steps, for landing. The Hooghly is here about a mile in width at high water, or at least twice as broad as the Thames below London Bridge, and is, like that river, crowded with shipping; vessels of all descriptions being able to lie almost close to the quay. The residences of Europeans are mostly detached from each other, built in the Grecian style of architecture, and situated in Chowringhee (the S. portion of the city, lying at the edge of a portion of the esplanade), or in the suburbs in that quarter, as Garden Reach, where the villas exhibit much beauty, and are surrounded by plantations of mango, jack, and other fruit trees. The citadel, or Fort William, which stands near Kidderpore, about ¼ m. SW. the city, is not only the strongest and most complete fortress in India, but in the British dominions; it is, however, large, and would require for its proper defence, 10,000 men. It is an octagon; the five faces on the land side are regular, the three others, toward the river, vary according to circumstances. The bastions have very salient orillons, and every curtain is covered with a large half-moon, mounting twenty-six pieces of cannon: the outworks are very extensive, but not much raised above the level of the surrounding country, and Fort William does not, therefore, make an imposing appearance from without. It contains an excellent arsenal, and a cannon-foundry; its interior is beautifully laid out in walks and grass-plots, shaded with rows of trees, intermixed with piles of shells and cannon balls. It is usually garrisoned by one strong European regiment, two native regiments, and a strong detachment of artillery; was built by Lord Clive soon after the battle of Plassey; and has cost from first to last 2,000,000*l*. Calcutta has no defence other than this fortress; the ditch and mound, constructed by the early settlers as a barrier against the Maharrattas, were destroyed by Marq. Wellesley, and their place is now occupied by the 'circular road,' which marks the boundary of the

liberties of Calcutta, and of the administration of English law. Between the fort and the city there is an extensive open plain called the Esplanade, being a continuation of the glacis, the fashionable resort for driving and riding. On it is the government-house, in a line with which there is a range of very handsome dwelling-houses. Chowringhee, formerly a collection of huts, is now a village of palaces, and extends for a considerable distance into the country. Behind Chowringhee, the native or 'Black Town' stretches along the river to the N., and exhibits a remarkable contrast to the part inhabited by Europeans. Its streets are dingy, narrow, and crooked, and consist of huts of earth baked in the sun, or of twisted bamboos, interspersed here and there with ruinous brick bazaars, pools of dirty water, cocoa-trees, and little gardens, and a few large and fine, but generally very dirty houses, of Grecian architecture, the residences of wealthy natives. There are some small mosques of pretty architecture, and very neatly kept, and some pagodas, but mostly ruinous and decayed; the religion of the people of Bengal being chiefly conspicuous in their worship of the Ganges, and in some ugly painted wooden or plaster idols, with all manner of heads and arms, which are set up in different parts of the city. Under the administration of the Marquis of Hastings, large sums were spent in the improvement and ventilation of Calcutta; a street 60 ft. wide was carried through its centre in its longest diameter, and several squares were laid open, each having a tank or reservoir in the middle, surrounded by planted walks. The largest square, which is near the S. extremity, is 500 yards on each side, and contains a tank 60 ft. deep. There are no covered ways, as in the cities of Persia and Turkey, though, from the violent heats and rains, such would be very desirable. The bazaars in the native town are very inferior, and the shops and warehouses have all a mean appearance: the public buildings there are few and small, and there is not a single minaret in the whole place. The most remarkable public edifice is the government-house, which was built by the Marquis Wellesley, and consists of a centre and four wings, connected together by circular passages, so constructed as to obtain the benefit of the air from whichever quarter the wind blows. The wings contain the private apartments, and that on the NE. the council-room; the centre has two very fine rooms, the upper one of which is the ball-room, and both are lighted by a profusion of lustres, while at the same time they exhibit much good taste: the architecture of most of the building is of the Ionic order. The other chief edifices are the town and custom-houses, the mint, St. John's cathedral, and another English church, all of which are contiguous to the government-house; the Scotch Presbyterian church, a very handsome structure; the Portuguese, Greek, and Armenian churches; the courts of justice, barracks, gaol, and hospitals. There are many public colleges and benevolent institutions; as the Hindoo, Mohammedan, and Anglo-Indian colleges, and the college at Fort William; the Calcutta grammar, free, and other charity schools; the military and female orphan asylums; and poor-funds; besides many bible, missionary, and other religious associations. On the NW. side of the river are the extensive suburb of Howrah, opposite the 'Black Town,' and the botanic garden, opposite the citadel. Near the latter is the bishop's college, a handsome building in the Elizabethan Gothic style, occupying three sides of a quadrangle 150 ft. square, erected in 1820, for the education of a clerical body, by the Society for the Propagation of the Gospel, at the

suggestion of Bishop Middleton. The botanic garden is beautifully laid out, and covers 800 acres of ground: between it and the bishop's college there is an extensive plantation of teak, which, although not in its native soil, thrives exceedingly well. There are several dry and other docks on both sides the river, in which vessels of any size may be built and repaired; but the ships constructed here are of inferior durability to those built at Bombay, in consequence of the framework being of inferior wood, and the visible portions and upper works alone of teak; all the timber in Calcutta also, without the fact being outwardly obvious, suffers greatly from the devastations of the white ant. In every part, this city is covered by an amazing multitude of little pools, or reservoirs, yet the soil on which it stands is remarkably deficient in springs, none having been met with even after boring down 140 ft., till 1828, and subsequently, when Dr. Strong found some in isolated spots, at a depth of 70 ft. The drainings of the place, with such portions of the refuse as are not devoured by crows, kites, vultures, adjutants, and pariah-dogs, which abound in the streets, and at night by foxes and jackals from the surrounding country, are conveyed away, by a canal, to a large shallow salt lagune about 4½ m. distant, towards the E. Between the city and this lagune the country is filled with gardens, orchards, and villages, but is little inhabited by Europeans. The tract to the N. is drier, healthier, and more open; and the two great roads to Dumdum, the artillery cantonment, and Barrackpore, the country seat of the governor-general, lie over a vast extent of fertile country, divided into rice-fields, orchards, and gardens, and swarming with population. The vicinity of Calcutta is very pleasing; as soon as its boundary is passed, the roads wind through beautiful villages, overhung with the finest and most picturesque foliage the world can show, of the banyan, the palm, the tamarind, and the bamboo. Sometimes the glade opens to plains covered with the rice-harvest, or to a sight of the broad, bright river, with its ships and wooded shores; sometimes it contracts into little winding tracks, through fruit-trees, gardens, and cottages; the gardens fenced in with hedges of aloe and pineapple; the cottages neater than those of Calcutta, and mostly of mats and white wicker-work, with thatched roofs and cane verandahs, with gourds trailing over them, and the broad, tall plantains clustering round them. The rainy season at Calcutta generally begins about June 12, and terminates Oct. 14. The average fall of rain for three recent years was 59·83 inches; the annual mean of the barometer is 29·764; of the thermometer, 78° 18'. The most pleasant and temperate period of the year is from Oct. to March; by the middle of April, the weather becomes oppressively hot, often rising to 100° Fahr.

Calcutta enjoys a very extensive internal navigation, by means of the Ganges, and its numerous arms and tributaries; and it monopolises the whole of the external trade of Bengal. The total value of the imports into Calcutta, including treasure, amounted to 20,240,943*l.* in 1860; to 15,024,075*l.* in 1861; and to 14,294,987*l.* in 1862. The total value of the exports was 12,125,807*l.* in 1860; 12,577,760*l.* in 1861; and 12,704,931*l.* in 1862. During the same three years, the shipping of Calcutta was as follows. In 1860, there entered 262 vessels, of 117,861 tons, and cleared 342, of 157,806 tons; 1861, there entered 226 vessels, of 101,225 tons, and there cleared 358, of 161,823 tons. Finally, in 1862, there entered 428 vessels, of 198,234 tons, and there cleared 718 vessels, of 259,281 tons. The statistics of shipping here

given are exclusive of the coasting trade, which is very considerable. Innumerable small craft daily arrive from the interior, laden with the produce and manufactures of the different provs.; and the Calcutta market is well supplied with an abundance of excellent provisions: game, snipes, wild ducks, teal, and ortolans, are comparatively cheap; stall-fed venison is as fat as in England, but without flavour: an immense variety of fruits of fine quality appear on European tables; and an exquisite luxury is met with in the *tapaswi* or mango-fish (so called because it is in season with the mango fruit), and which has been hitherto found only in the rivers of Bengal, the Birman empire, and the Camboja rivers.

The commercial prosperity of Calcutta has greatly increased since the establishment of a railway system in India. The Calcutta and South Eastern railway was opened throughout Jan. 22nd, 1863; the 'Eastern Bengal,' from Calcutta to Dacca, was opened Nov. 15th, 1862; and the 'East Indian,' from Calcutta to the Northern Provinces, was opened as far as Benares, Dec. 22nd, 1862. By means of these lines, the city has become one of the central points of railway communication in India.

The population of the city is unequally distributed: its N. and central portions, especially the former, are very densely inhabited; the S. part much less so, owing to the dwellings of Europeans being so much more widely dispersed. Calcutta is the seat of the chief Protestant bishop of India of the Established Church of England; of the supreme courts of justice; of one of the courts of circuit and appeal for the presidency of Bengal; of a vicar-apostolic of the Romish church, with authority over 14 priests and 10 churches, one of which is in that city.

European society in Calcutta is gay and convivial; and fêtes and dinner-parties, both numerous and splendid, are given by the government officers and wealthy private individuals. A certain degree of formality and stiffness is, however, very prevalent; and the Brahminical institution of *castes* would appear to have communicated itself to all ranks and classes of Europeans.

Bishop Heber observes in his 'Journal' that the large dinner-parties, in addition to the geographical situation, and other local peculiarities; the aspect and architecture of the place; the multitude of servants, and want of furniture in the houses, tend, except in respect of climate, to give Calcutta a striking resemblance to Petersburg. Besides private parties, there are public subscription assemblies, with *conversazioni*, concerts, and a theatre, though the latter is but little frequented. It is usual with Europeans to rise early, the pleasantest part of the day being the first of the morning; after *tiffin* (lunch), which is taken between 2 and 3 o'clock, many persons, during the summer heats, retire to sleep for two or three hours; at sunset the fashionable drives of the Esplanade are crowded with European vehicles of all sorts, and the dinner-hour soon after succeeds. The equipages of Calcutta embrace barouches, chariots, tilburies, gigs, &c., as in England, drawn by a breed of horses which have been greatly improved through the government stud and importations from Europe and Arabia: but a grotesque and peculiar appearance strikes the eye of the European in the intermixture of Asiatic costumes, and black coachmen, in the scene. Most visits at a short distance are paid in palanquins, the bearers of which are from Balasore, Behar, or the northern Circars, and run silently, bare-headed, and almost naked. The Anglo-Indian, or half-caste population, the product of an intercourse between Europeans and natives, are more

numerous in Calcutta than anywhere else in India; they are intelligent, industrious, and generally well educated, and possess a degree of consideration in the eyes of the native population, though they are without any political influence. All of them speak English, as well as the native dialect. Many of the half-caste females, daughters of mothers of high caste, are educated in the seminaries in and near Calcutta, and often marry Europeans, when they are said to make most unexceptionable wives and mothers: their children, in this case, lose in one or two generations all distinctive mark of their Indian origin. A considerable number of the new zemindars, and the retired traders who have become wealthy, reside in Calcutta; where they have houses handsomely furnished in the European style; drive the best horses and equipages; have adopted English habits and tastes; speak the English language; enter into the politics of the British empire, and are not ignorant of English literature. With all this, the education of their sons is often miserably neglected, and they turn out mere spendthrifts; but the fact is sufficiently and generally manifest, that the native inhabitants of all ranks show a willingness to learn and speak English, an increasing anxiety to send their children to school, and a growing neglect of caste and other national prejudices.

The great bulk of the natives have a very bad character, being proficients in intrigue, falsehood, and chicanery; prone to perjury, theft, gambling, and all kinds of dishonesty; and of a cowardly disposition: but it is generally admitted that the morality of the native inhabitants of Calcutta is at a lower ebb than that of those in the provincial districts. A perceptible amendment in the morals and pursuits of the people is, however, said to be taking place. The Bengalee dialect, which had long been looked on with much prejudice by the natives of India, is now reviving, and various works are published in it every year. Numerous periodical works, and newspapers, issue from the press. There are several distinguished scientific, literary, and other associations in Calcutta; as the Asiatic Society, which owes its origin to Sir W. Jones; the Medical and Physical, Agricultural and Horticultural Societies; the Chamber of Commerce, and the Trade Association.

In 1698 the British factory was removed thither from Hooghly; but in the early part of the last century Calcutta was but a paltry village, belonging to the Nuddea district, and inhabited chiefly by husbandmen. Chowringhee was also but a straggling village, and a forest jungle, interspersed here and there with patches of cultivated land, covered what is now the Esplanade, so late as 1756. In that year Suraja-ul-Dowlah, the soubahdar of Bengal, dispossessed the English of their settlement; on which occasion 146 Englishmen, who had been left to defend the factory, were shut up at night in the black hole (a part of the old fort, taken down in 1818), of which number only 23 were found alive next morning. Col. Clive, with some Madras troops, retook Calcutta Jan. 1, 1757; since which it has been quietly retained by the British, and risen to its present degree of importance.

CALDER a river of England, in Yorkshire, rises on the SE. side of Bolesworth-hill, in the grand central range of English mountains, and flowing in an E. direction, at a little distance from Halifax and Dewsbury, and past Wakefield, unites with the Aire at Castleford. This river is of great importance in the canal system of Yorkshire and Lancashire, and has been rendered navigable for a great part of its course. Another river of the same name rises on the W. side of the same hill,

and flowing W., falls into the Ribble. It is of very inferior importance. (See Humber.)

CALICUT, a marit. distr. of Hindostan, prov. Malabar, whic see.

CALICUT, a marit. town of Hindostan, cap. of the above district, and of the prov. Malabar, 85 m. SW. Seringapatam, and 380 m. WSW. Madras; lat. $11^{\circ} 18' N.$, long. $75^{\circ} 50' E.$ Pop. estimated at 24,000. The principal exports are pepper, teak, sandal-wood, cardamoms, coir, cordage, and wax; but Calicut is destitute of any good harbour. This was the first place in India made by the Portuguese under Vasco de Gama, who arrived here 18th May, 1498. In 1509 the Portuguese were repulsed, with great slaughter, in an attack on the place, and their commander killed. In 1766 it was taken by Hyder Ali, and Tippoo afterwards destroyed the fort and town, obliging the inhabitants to migrate to Nelluru; but on the conquest of the prov. by the British in 1790, most of them returned to it, and in 1800 Calicut again numbered 5,000 houses.

CALIFORNIA, a state of the North American Union, 34th in number of the *United States*, extending along the W. coast of North America, from the $32\frac{1}{2}^{\circ}$ to $42^{\circ} N.$ lat., having S. the peninsula of Lower California and the river Gila, by which it is divided from Mexico; E. the Rio Grande or Del Norte; and N. the state of Oregon, from which it is divided by the 42nd parallel of lat. Area 188,982 square m.; pop. 379,994 in 1860, of whom 34,919 were Chinese, 236 Mexican half-breeds, and 17,562 Indians. The state, throughout its area, is mountainous, and the Sierra Nevada extends, under different names, and with different altitudes, in a nearly continuous chain, from the S. extremity of the peninsula to Russian America. It is remarkable for its parallelism and proximity to the sea, its great elevation, and its numerous volcanic peaks, stretching far above the line of perpetual snow. Its distance from the coast varies from 150 to 200 m., so that the area of this portion of the country exceeds 100,000 sq. m. The great mountain-wall of the Sierra Nevada intercepts the warm winds charged with vapour, which sweep across the Pacific Ocean, precipitates their accumulated moisture in fertilising rains and snows upon its western flank, and leaves cold and dry winds to pass on to the E. Hence the characteristic difference of the two regions—mildness, fertility, and a superb vegetable kingdom on the one side, comparative barrenness and cold on the other.

Between the latitude of 34° and 41° , a range of low mountains or hills runs close along the shore, the culminating point of which, the *Monte del Diavolo*, close to the bay of San Francisco, attains to the height of 3,674 ft. The valley between this coast chain and the grand barrier of the Sierra Nevada comprises the valleys of the Sacramento and San Joaquin, 500 m. in length, and by far the most valuable portion of California. The western flank of the Sierra belongs to the latter. It is a long, wide slope, timbered and grassy, with intervals of arable land, copiously watered with numerous and bold streams, and without the cold which its name and altitude might imply. It is from 40 to 70 m. in width from the summit of the mountain to the termination of the foot hills on the edge of the valleys below. Timber holds the first place among the products of this slope, the whole being heavily wooded, first with oaks, which predominate to about half the elevation of the mountain, and then with pines, cypress, and cedars, the pines predominating; and hence called the pine region, as that below is called the oak region, though mixed with other trees. The highest summits of the Sierra are naked, massive

granite rocks, covered with snow, in sheltered places, all the year round. Acorns of uncommon size, and not bad taste, used for food by the Indians, abound on some of the oaks. The cypress, pines, and cedar are between 100 and 250 ft. in height, and from 5 to 12 ft. in diameter, with clean solid stems. Grass abounds on almost all parts of the slope, except towards the highest summits, and is fresh and green all the year round, being neither killed by cold in winter, nor dried by want of rain in summer. The foot hills of the slope are sufficiently fertile and gentle to admit of good settlements, while valleys, coves, beaches, and meadows of arable land are found throughout. Many of the numerous streams, some of them amounting to considerable rivers, which flow down the mountain side, make handsome, fertile valleys, and furnish good water power. The climate, in the lower part of the slope, is that of constant spring.

The principal feature in the country between the Sierra Nevada and the ocean is the great bay or inlet of the sea called San Francisco. It has a narrow entrance about 1 m. in width, in about $37^{\circ} 48' N.$ lat. Within it expands into a noble basin stretching NNW. and SSE. 60 or 70 m., and E. about 50 m., being divided into the three great compartments of San Pablo on the N., Santa Clara on the S., and Suisoon Bay on the E., and affording accommodation to all the navies of all the countries in the world. Its coast line, which extends to about 275 m., is highly diversified, displaying a singularly rich and varied outline. The great rivers, the Sacramento from the N., and the San Joaquin from the S., fall into this bay. The lower parts of the valleys through which these rivers flow unite at the bottom of the bay, and form an immense plain, stretching N. and S. above 200 m. This great valley has at some former period been evidently a lake; and were it not for the streams which flow into them from the mountains, the rivers by which it is watered would be quite dry in the summer months. The soil is a deep, black, alluvial mould, porous and extremely fertile. It was formerly overflowed by the rivers in the rainy season; and the embankment has been one of the first objects to which the attention of the settlers was directed. Both rivers, but especially the Sacramento, afford every facility for steam navigation. In the upper part of the valley of the San Joaquin, between 35° and $36\frac{1}{2}^{\circ}$ lat. is the Tulare (Bulrush) Lake, surrounded by extensive swamps overgrown with luxuriant bulrushes, and receiving all the streams in the S. end of the valley. In the wet season it attains to a great size, its surplus waters being discharged into the San Joaquin. In the dry season it is reduced within comparatively narrow boundaries, and is in some places fordable.

The appearance of the N. and S. portions of California differs considerably, the former being much better wooded than the latter. Below the 39th deg. lat. the forests are limited to some scattered groves of oak in the valleys and along the borders of the streams; and of red wood on the ridges and in the gorges of the hills, the latter being sometimes, also, covered with dwarfish shrubs. With these exceptions the country is clothed in the wet season with the finest herbage, consisting either of different grasses, or of wild oats, which, in the valleys especially, grow most luxuriantly. But in the latter part of the dry season it has a burnt-up, scorched appearance, and is often subjected to devastating fires. N. of the 39th deg. lat. the forests are extensive and valuable; and are fitted to afford all but inexhaustible supplies of timber.

The temperature is a good deal higher than in the corresponding latitudes on the E. coast of America. The year is divided into two seasons,—the wet, extending from April to November, and the dry. In the former the rains, though not by any means continuous, are frequent and heavy. In the S. parts of the country the dry season commences earlier and continues longer than in the N. During the prevalence of the latter the district immediately contiguous to the shore is infested with fogs and cold winds from the sea. But within the coast range, the climate is delightful; the heat in the middle of the day not being so great as to hinder labour, while the nights are cool and pleasant.

The country, particularly in the N., is well suited to the growth of wheat, barley, rye, and oats. Wild oats, indeed, as already noticed, grow in vast quantities all along the coast, and as far inland as the sea-breeze has any material influence. Potatoes, turnips, carrots, and all the edible roots of the Atlantic coast of America, with apples, pears, peaches, vines, and other fruits, attain to the greatest perfection. In the southern valleys between the coast-hills and the Sierra the climate is sufficiently hot to mature maize, rice, and tobacco. The heat and drought of summer make irrigation a most important auxiliary in farming operations; but it is not indispensable. Vancouver found, in 1792, at the mission of San Buenaventura, lat. $34^{\circ} 16'$, apples, pears, plums, figs, oranges, grapes, peaches, and pomegranates growing together with the plantain, banana, coconut, sugar-cane, and indigo, and all yielding fruit in abundance, and of excellent quality. Humboldt says that the olive oil of California is equal to that of Andalusia, and the wine like that of the Canary Islands. The valleys are overgrown with wild mustard, the vineyards and olive orchards are decayed and neglected; and in a few places only do we see the evidences of what the country is capable. At San Buenaventura the olive trees are often found in January, bending under the weight of neglected fruit; and the mission of San Luis Obispo (lat. 36°) is distinguished for the excellence of its olives, which are finer and larger than those of the Mediterranean.

Among the wild animals are bisons, bears, wolves, foxes, wild cats, polecats, otters, beavers, hares, rabbits, and a profusion of other kinds of game. Large herds of a peculiar variety of deer, of a gigantic size, with horns of a corresponding magnitude, and great swiftness, are found in the forests and grassy plains. They used to be taken by the *lasso*, and sometimes by the artifice, described by Humboldt, of the Indians disguising themselves with the skins and horns of captured animals till the herd came within reach of their arrows! (Nouvelle Espagne, ii. 285.) The bison is hunted for its skin, which is used in many parts of Spanish America as a bed or carpet. Otters and beavers are found in all the rivers, lakes, and bays; but their numbers have greatly decreased since the country began to be settled. The sea contains exhaustless stores of fish.

But the vegetable and animal products of this region, however important, are reckoned of but little account, compared with its mineral produce, particularly with the gold found in the beds of some of its rivers and ravines. The discovery of these auriferous deposits has rendered California an object of universal interest, and has directed to her shores an unparalleled amount of emigration. There are three distinct gold-regions in the state, though the first two are connected by outlying placers and leads. 1st. *The Eastern Range*, extending from the summit-ridge of the mountains

to within about 25 m. of the edge of the plains. In 1859 this district was supposed to possess about 1,000 sq. m. of available mining territory, including both placers and veins of gold-bearing quartz. 2nd. *The Middle Placers*, situated at about an average distance of 20 m. from the line of the higher foot-hills, and having its western border within about 4 m. of the edge of the plains. This district covers an area of about 6,000 sq. m., and the mining is mainly gold-washing. 3rd. *The Valley mines*, which are situated among the lower foot-hills of the mountains, and extend thence westward on to the eastern edge of the plains of the San Joaquin and Sacramento to an extent of from 3 to 5 m. These mines extend from north to south a linear distance of about 250 m. The amount of territory occupied by these mines is probably not less than 6,000 sq. m. The profitable mining of the deposits in these, as in the middle placers, has required the construction of extended watercourses for the washing of the gold from the sand and gravel. The flood of 1861-62 laid bare many new deposits in this region. The varieties of mining are—*Placer mining*, which bears considerable analogy to coal mining in Pennsylvania, adits being driven into the hills, and often through solid rock, to the locality where the gold deposit exists. *Hydraulic mining*, where a broad, open ditch is carried through the hills, and the sides washed down by directing a powerful stream of water on them. *River mining*, in which, when the rivers are low, the streams are diverted from their courses by means of flumes, tail-races, &c., and the beds of the rivers thus exposed and their sands washed for gold. This can only be carried on for about six months of the year. *Gulch mining*, in which a large flume is formed below the surface of the earth in such a manner as to receive all the adjacent streams after being used by the miners. And lastly, *Quartz mining*, which requires a considerable investment of capital, but is profitable. In this description of mining the gold-bearing quartz is crushed by powerful stamps, in mills driven by steam, water, or mule power, to the fineness of flour, and then the gold taken up by means of quicksilver by the usual washing process. In January, 1859, there were nearly 300 mills in operation, with an aggregate of 2,610 stamps and 519 arastras. The cost of machinery was estimated at 3,270,000 dollars. The entire receipts of gold from California at the mint and its branches up to June 30, 1862, was 528,145,665 dollars. The estimates of well-informed statisticians give about 20 per cent. additional as the amount shipped direct to England, retained in the state as gold dust, or manufactured, previous to 1857. Since that time, the direct shipment to foreign ports has been somewhat larger; and it would probably vary very little from the fact, if we estimated the entire yield of the California gold-mines to July 1, 1862, at 650,000,000 dollars. (The National Almanac, 1864.)

Gold is not the only valuable mineral yielded by California. Silver is known to exist, and has been profitably mined in El Dorado, Mariposa, Santa Barbara, and Santa Clara counties; and most of the gold contains a considerable proportion of silver. About 8,000,000 dollars worth have thus been obtained since the discovery of gold in California. Copper, strongly impregnated with gold and silver, is found in Placer, El Dorado, Shasta, and other counties. Quicksilver in the form of cinnabar is largely produced at the New Almaden, Guadalupe, Aurora, and other mines; and in 1862, aside from the home consumption, the export of that metal reached the sum of 1,112,654 dollars. Iron is found in large quantities and varies

forms all along the coast range; in Placer county in a condition approaching to native iron in purity, and in Mariposa county in the form of hydrate. Sulphate of iron in large quantities occurs near Santa Cruz, and magnetic iron in the same region. Platinum is almost as widely dispersed through the state as gold, though in smaller quantities; osmium and iridium are usually associated with it. Tin is also found in several parts of the state, and will probably ere long be mined with advantage. Chromium, gypsum, nickel, antimony, bismuth, sulphur, lead, salt, nitrate of potassa (saltpetre), borax, coal in large quantities and of good quality, marble of extraordinary beauty, alabaster, granite, buhrstone, lime, &c., are the other principal mineral products of the state. Mineral springs abound.

It was known from the statements of the earlier visitors of the country, that gold had been found, or was believed to exist, in California; but these statements had been either forgotten, or made no impression, and it was not till late in May, or early in June, 1848, that the auriferous deposits were discovered that attracted so much attention, and had such wonderful results. They were found on the S. fork of the American river, a tributary of the Sacramento, at a place now called Coloma. The news of the discovery and of the unparalleled richness of the deposits spread with extraordinary rapidity; and before the end of the season about 5,000 men had been attracted to the spot, and their enterprise had been rewarded by the acquisition of gold worth 1,000,000*l.* sterling. During the following winter information of the discovery spread on all sides, and to a great distance; and in the season of 1849, immigrants of all descriptions, and from the remotest countries, including Americans, Mexicans, Peruvians, Chinos, Europeans, South-sea islanders, and Chinese crowded in swarms to the Sacramento and its affluents. A camp of at least 10,000 Mexicans is said to have been formed. 'They had,' says an eye-witness, 'quite a city of tents, booths, and log cabins; hotels, restaurants, stores, and shops of all descriptions, furnishing whatever money could procure. Ice was brought from the Sierra, and ice-creams added to other luxuries. An inclosure made of the trunks and branches of trees, and lined with cotton cloth, served as a sort of amphitheatre for bull-fights; other amusements, characteristic of the Mexicans, were to be seen in all directions.' The foreigners resorted principally to the S. mines, which gave them a great superiority in numerical force over the Americans, and enabled them to take possession of some of the richest in that part of the country.

Government.—California was ceded by Mexico to the United States in 1848. On their arrival in California the immigrants from the United States, and other distant countries, found themselves in a singular position. There were very few inhabitants, and no government or police in the country; and the immigrants were totally unacquainted with the Spanish laws, by which the property and affairs of the settlers had hitherto been regulated. In consequence, the greatest confusion and disorder took place. The congress of the United States soon became aware of this untoward state of things, and of the importance of the vast addition made to its territory. But the efforts of the government to organise the country into a new state, or to subject it to a constitutional regimen, were obstructed at the outset by the formidable difficulty of deciding whether slavery should or should not be allowed in the new state; and the disinclina-

tion or inability of Congress to decide this question prevented the admission of California into the Union either as a state or a territory.

In this dilemma the Americans in the country displayed their singular capacity for self-government, by promptly and unanimously adopting the manly and safe course of forming themselves into a state. In June, 1849, representatives were chosen in all parts of the territory to meet for the purpose of forming a constitution. The new state was admitted into the Union in 1850, and Sacramento declared to be its capital. By the terms of the state constitution, the legislature of California consists of the senate and assembly, and convenes annually at Sacramento on the first Monday in January. The *senate* is composed of forty members, chosen from twenty-eight senatorial districts, and the term of office is two years. The lieutenant-governor is *ex-officio* president of the senate. The *assembly* is composed of eighty members, elected annually, and the presiding officer is chosen from their own body. The pay of the members of the legislature is, for the first ninety days of the session, ten dollars per day, and for the remainder of the session five dollars per day, and mileage at the rate of four dollars for every twenty miles of travel from their residence by the nearest mail-route to the capital.

The constitutional amendments provide for biennial sessions, to commence on the first Monday in December. Members of the assembly are to be chosen for two years, and senators for four years.

Revenue and Expenditure.—The subjoined table shows the receipts and expenditures of California for thirteen years, from 1850 to 1862, to the 30th of June, each year:—

Years	Receipts	Expenditures
	Dollars	Dollars
1850	3,156	351,322
1851	330,796	742,272
1852	366,825	1,020,239
1853	454,986	1,456,815
1854	1,022,647	1,499,265
1855	1,155,537	1,471,937
1856	723,290	1,632,765
1857	799,795	1,018,203
1858	1,215,129	983,353
1859	1,184,222	1,109,143
1860	1,198,562	1,165,718
1861	1,292,719	1,462,691
1862	1,031,529	1,146,745
Totals	10,779,213	15,060,468
Excess of Expenditures over Receipts for 13 Years		4,281,255

Objects of expenditure for thirteen years, from 1850 to 1862 inclusive, showing aggregates for that period for each class:—

	Dollars
Executive	1,223,425
Legislature	3,257,103
Judiciary	1,333,526
Printing	1,270,739
Schools	546,000
Hospitals	696,562
Indigent Sick	85,110
Insane Asylum	825,260
State Prison	1,546,114
Indian Wars	130,590
Interest State Debt	1,793,629
Bonds paid	978,815
Relief purposes	844,698
Miscellaneous	1,048,897

Total for 13 Years 15,060,468
R R 2

The total debt of the state, funded and unfunded, amounted to 5,569,285 dollars on the 1st of January, 1863. The greater part of this debt consisted of obligations known as 'Bonds of 1857,' to the amount of 3,727,500 dollars, the whole of which sum was spent upon harbours, canals, and other works of public utility.

Valuation and Taxation.—In 1862 the assessed value of the real and personal property of California for purposes of taxation was 163,369,071 dollars. On this there was assessed for state uses a tax of 62 cents on the hundred dollars, amounting to 994,228 dollars; of which there had been collected to December of that year 412,399 dollars. For the purpose of raising (in part) the state quota of the United States direct tax, a property tax of 15 cents on the hundred dollars was assessed, amounting to 240,553 dollars; also for the same purpose a poll-tax of two dollars on each taxable poll (estimated to number 130,000), making 260,000 dollars.

The state owned, in 1862, in all 8,807,680 acres of lands under the following grants:—

	Acres
Grant of School Lands . .	6,755,200
" Swamp Lands . .	1,500,000
" Internal Improvement . .	500,000
" Seminary . .	46,080
" Public Buildings . .	6,400
Total . .	7,807,680

A portion of this land, possessed by the state, has become extremely valuable by the discovery of new mines.

Railways and Canals.—The state has three railroads, viz. 1. The California Central, 48.8 m. in length: the cost of this road and equipment is stated at 1,900,000 dollars. 2. The Sacramento Valley, 22.5 m. in length. 3. The Las Mariposas, a railway 8.7 m. in length, constructed by General Frémont on his mining property at Mariposa, and is remarkable for the skill with which it has overcome serious engineering difficulties. There are no state canals; but the canals constructed by private companies for purposes of mining and navigation are of extraordinary extent. In 1859 there were 5,726 miles of artificial water-courses constructed for mining-purposes, at a cost of 13,574,400 dollars. A single county (El Dorado) had 1,160 miles of these canals. These are independent of aqueducts for the supply of water to four or five of the larger towns. They have nearly or quite doubled since that time.

Steamers make the passage from New York and New Orleans to Chagres, respectively, in about seven and four days; and allowing three days for the conveyance of freight across the Isthmus, and ten days for the voyage from Panama to San Francisco, the passage from New York to the latter is made in twenty, and from New Orleans in seventeen days. This facility of communication is of no less importance to the Atlantic states of the Union than to California.

History.—California was discovered by Cabrillo, a Spaniard, in 1542. At a later period, or in 1578, Sir Francis Drake sailed along its shores, prolonging his voyage to the 48th deg. of lat. From this circumstance, the name of New Albion has sometimes been given to the country N. of San Francisco; though, as Humboldt states, this designation, if employed at all, should be restricted to the country extending from the 43rd (the N. limit of Cabrillo's voyage) to the 48th deg. of lat. (N. Espagne, ii. 273). It was not colonised by the Spaniards till 1768. The latter founded establishments in various parts of the country under the names of *Presidios* and *Missions*; the former

being military posts, and the latter a sort of semi-religious foundations under the guidance of the Franciscan friars. Like the Jesuits, these fathers exerted themselves to instruct the Indians in the art of husbandry, and apparently their efforts were crowned with success. But here, as in other parts, the civilisation of the Indians appears to have been wholly forced and factitious; and when the missions were deserted by the friars the natives relapsed into their original barbarism. Their numbers have since rapidly declined; and it is probable that at no distant period the race will be entirely extirpated. The Americans seem generally to regard them as a sort of *fera nature*, or at best as irreclaimable barbarians without the pale of humanity.

In 1830, California began to be resorted to by American and English hunters and other adventurers; who soon began to think of emancipating themselves from the feeble dominion of Mexico. The latter was overthrown in 1836. Subsequently the country became a prey to all sorts of disorders; adventurers from the United States and Mexico alternately getting the ascendancy. At length a war broke out in 1846 between the United States and Mexico; and the latter, having been defeated at all points, finally ceded California to the Union in 1848.

CALLAH (EL), a town of Barbary, reg. Algiers, on a mountain, and surrounded by ramifications of the Atlas, 15 m. NE. Mascara. It is a dirty and ill-contrived town, having neither drains, pavement nor causeways. It has a citadel, and a large manufactory of carpets and *burnouses*, or woollen cloaks. Several villages in the neighbourhood are engaged in the same employment. Dr. Shaw thinks that it may have been the *Githi* or *Apfæ* of Ptolemy.

CALLAN, an inl. town of Ireland, co. Kilkenny, prov. Leinster, on the King's River, an affluent of the Nore, 72 m. SW. by S. Dublin. Pop. 2,331 in 1861, the great majority of whom are R. Catholics. The town was anciently walled and a place of considerable strength; but was stormed and dismantled by Cromwell in 1650. The streets form a cross, with lanes branching from them, and the houses are, in general, very indifferent. The parish church was anciently a monastic building; the Roman Catholic chapel is modern. There is also an Augustine friary, with a large chapel, a national school, a dispensary, and a loan fund. A party of the constabulary is stationed here. The corporation, which consists of a sovereign, burgesses, and freemen, returned two mem. to the Irish H. of C. till the Union, when it was disfranchised. The liberties extend to a considerable distance round the town. The only trade is in grain. Markets are held in a small market-house, on Tuesdays and Saturdays; and for pigs, on every Monday from January to May. Fairs are held on 4th May, 13th June, 10th July, 21st August, 10th October, 4th November, and 14th December.

CALLENDER, a village of Scotland, co. Perth, valley of Menteith, beautifully situated on the left bank of the Teith, 16 m. NW. Stirling, on a branch of the Scottish Central railway. Pop. 884 in 1861. The village may be regarded as the threshold of the Highlands in this quarter, and is surrounded on all sides except the S. by stupendous mountains, forming part of the Grampians; Benledi, the highest and most striking, being, 3,009 ft. above the level of the sea. Pop. 1,200. Gaelic and English are both spoken, and the Highland dress is partially worn. A classical interest has been imparted to this town, and to the district with which it is connected, by Sir Walter Scott's

poem of 'The Lady of the Lake,' Loch Katherine and the Trosachs ('bristled country'), so celebrated in that poem, lie 10 m. W. from Callander. The activity and prosperity which mark this neat little village are chiefly ascribable to the advantages it derives from lying in the line of the great thoroughfare leading to these romantic scenes. The village is built on *fens*, or building leases, holding of the noble family of Perth, to each of which is attached an acre or more of ground, so that each family has a source of employment within itself, almost peculiar to Callander. The only public building in the town is the parish church, a modern edifice, with a spire. It has also an efficient parish school.

CALLAO, a sea-port town of Peru, about 6 m. W. from Lima, of which it is the port, on the N. side of a projecting tongue of land, opposite to the barren island of San Lorenzo, which protects the W. side of its bay; lat. $12^{\circ} 3' 45''$ S., long. $77^{\circ} 4' 10''$ W. The houses in the town are mean and poor, with mud walls and flat roofs. It is well fortified. The roadstead is by far the best on the Peruvian coast, with good anchorage in from 7 to 10 fathoms. There is a rudely constructed pier, within which vessels of large burden may load and unload. There is a very good carriage road from Callao to Lima. The present town is of comparatively modern origin; the former town having been wholly destroyed and submerged in a dreadful earthquake that occurred in 1746, which also destroyed great part of Lima. In calm weather the ruins of the old town are still visible under the water at a short distance from the present town. In November, 1820, Lord Cochrane cut out the Esmeralda, a large Spanish ship of war, from under the guns of the castles of Callao. These surrendered to the Independents in the course of the following year.

CALLE (LA), or **EL CALLAH**, a town of Algeria, prov. Constantine. Pop. 1,206 in 1861. The town contains a factory founded by the French African Company. It stands on a peninsulated rock nearly surrounded by the sea. This was formerly the principal seat of the coral fishery carried on along the Barbary coast. It was nearly destroyed by the Algerines in 1827.

CALLIANEE, an inh. town of Hindostan, prov. Aurangabad, presid. Bombay, 24 m. N.E. that city; lat. $19^{\circ} 15' N.$, long. $73^{\circ} 15' E.$ It is the cap. of a distr. of the same name, and stands on the S. bank of the Cailas river, surrounded by ruins: it is, however, populous, and carries on some trade in cocoa-nuts, oil, coarse cloths, brass, and earthenware. It sustained many sieges during the wars between the Moguls and Maharrattas. The district of Callianee is a strong hilly country extending along the sea-coast, opposite the islands of Bombay, Salsette, &c., bounded E. by the W. Ghauts, and containing the towns of Bassein, Panwell, Chowli, Rajapoor, &c.: its towns are large and tolerably well peopled; but its villages small, meanly built, and thinly scattered.

CALLINGTON, a town and par. of England, co. Cornwall, middle div., E. hund. Area of par. 2,600 acres. Pop. of do., 2,202 in 1861. The town, in a low and unpleasant situation, is 7 m. SSW. Tavistock. It was made a bor. in the 27th of Elizabeth, and returned two mem. to the H. of C. from that period down to the passing of the Reform Act, when it was disfranchised. The right of election was in the owners of burgrave tenures paying scot and lot.

CALLOSA DE ENSARRIA, a town of Spain, prov. Alicante, 18 m. SSW. Denia. Pop. 3,900 in 1857. The town stands near the confluence of the Gaudalest and Algar, in a mountainous

country that produces fine raisins, and excellent wine, almonds, and fruit.

CALLOSA DE SEGURA, a town of Spain, prov. Alicante, four m. E. Orihuela, on the river Segura. Pop. 3,876 in 1857. Charcoal, known by the name of *graniza*, is here manufactured from the stalks of hemp; it is said to be superior to any other for the manufacture of gunpowder, and is chiefly used in the preparation of that made for the Spanish artillery.

CALMAR, or **KALMAR**, a sea-port town of Sweden, cap. prefecture of same name, on the W. side of the narrow strait of the Baltic, separating the island of Celand from the continent, 90 m. N.E. of Carlsrona; lat. $56^{\circ} 40' 30'' N.$, long. $16^{\circ} 26' 15'' E.$ Pop. 15,951 in 1860. The town stands on the small island of Quarnholm, which communicates with the mainland, where there is a suburb, by a bridge of boats. It is built of wood, and is strongly fortified. The castle, in the suburb, formerly looked upon as one of the keys of the kingdom, is now occupied as a house of correction. Calmar is the seat of a bishopric, and has an academy and a dockyard. The cathedral is a fine stone building; and the mansion of the prefect, the town-hall, and some other public edifices, are of the same enduring material. Its port is small, but safe and commodious. There are manufactures of woollen stuffs, tobacco, and potash. Previously to the annexation of the provinces of Schonen and Blekingen to Sweden, this town was of much greater consequence than at present. Its importance as a fortress has declined; and its commerce, which was formerly very considerable, has been mostly transferred to Stockholm; but timber, alum, tar, and hemp, are still exported.

This is a very old town. Having been burnt down in 1647, it was rebuilt on the island of Quarnholm, being previously situated on the mainland, where its suburb now stands. It has been the scene of some very important events in Swedish history. Here, in 1897, was concluded the famous treaty which united the kingdoms of Sweden, Denmark, and Norway, under the vigorous sceptre of Queen Margaret, surnamed the Northern Semiramis. But in its consequences this treaty was very ruinous to Sweden. Here also, in 1520, Gustavus Vasa disembarked to deliver his country from the domination of foreigners and of a sanguinary tyrant. Louis XVIII. resided at Calmar in 1804, and erected at Stensø a tablet in honour of Gustavus. In 1800 a fire destroyed a great number of the houses, with the buildings of the academy.

CALNE, a parl. bor., market town, and par. of England, co. Wilts, hund. Calne, 89 m. W. from London by road, and 99 m. by Great Western railway. Pop. of parliament. bor. 5,179, and munic. bor. 2,494 in 1861. The borough formerly comprised 885 acres; but the Boundary Act made the limits of the parl. bor. coincident with those of the par. The town, which consists chiefly of one long street, is well built, with stone houses, and is well paved and lighted with gas. The church, a large ancient structure, has a tower by Inigo Jones; and there are various dissenting chapels. The town-hall was erected at the expense of the Marquis of Lansdowne. The grammar-school, founded in 1660, has two exhibitions to Queen's College, Oxford; and there are British and national schools, Sunday schools. There are flax and water mills. A branch of the Wilts and Berks canal communicates with the town, and, together with the railway, much facilitates its trade.

Calne is a bor. by prescription: it began to send mem. to the H. of C. in the reign of Edward I.; and regularly sent 2 mem. from the reign of

Richard II. down to the passing of the Reform Act, which deprived it of one of its mem., and at the same time extended the limits of the bor. as stated above. Previously to the Reform Act the right of voting was in the burgesses, who might be indefinitely increased. Registered electors 184 in 1861. Bowood, the magnificent seat of the Marquis of Lansdowne, lies about $1\frac{1}{2}$ m. W. from the town.

CALVADOS, a *dép.* of France, so called from a chain of rocks of that name that stretches along part of its coast, bounded N. by the English Channel, E. by the *dép.* Eure, S. by Orne, and W. by that of La Manche. Area 556,093 hectares. Pop. 480,992 in 1861. Surface mostly flat, the only hills of any consequence being in the arrond. of Vire, in the SW. corner of the *dép.* Soil of the plains composed principally of calcareous clay; the soil of the valleys, of which there are several of large extent, is principally alluvial, and that of the hilly parts sandy. Minerals unimportant, with the exception of coal, of which about 340 quint. (met.) are annually produced at Littry. Climate rather cold and moist. There are several rivers, but none of them is navigable for any considerable extent inland. Coasts in most parts inaccessible; and the *dép.* has no good harbour. Pasturage is more attended to than tillage; but the latter is in a more advanced state than in most other departments. The average produce of wheat is estimated at about 1,400,000 hect.; and that of barley, oats, rye, and buckwheat may be taken at about as much more. Apples are largely cultivated, and cider is the common beverage of the country. The potato culture has recently been much extended. Oxen but little used in field labour. Meadows very extensive, extending over about 123,000 hectares, and their management well understood. In the valleys, large herds of cattle are fattened for the markets of Paris, Rouen, and Caen. They are bought lean in the departments of Finisterre, Côtes-du-Nord, Sarthe, and Mayenne. The dairy is also an object of much attention; and large quantities of superior butter and cheese are produced. Total stock of cattle estimated at 160,000 head. The horses of this part of Normandy are reckoned the finest in France: stock estimated at 80,000, exclusive of 12,000 mules and asses. Sheep have been vastly improved during the present century. Annual produce of wool 310,000 kilograms. Great numbers of hogs are fattened. The forests cover nearly 40,000 hectares. The lace manufactory is widely diffused, particularly about Caen; and the spinning and weaving of cotton and wool occupy a great number of hands; there are, also, paper-mills, oil-mills, tanneries, refineries of beet-root and foreign sugar with distilleries. The mackerel and herring fishery is successfully carried on along the coast. The *dép.* is divided into 7 arrond. Principal towns, Caen, Lisieux, Bayeux, Falaise, Honfleur, and Vire.

CALVI, a sea-port town of Corsica, NW. coast of the island, on an elevated peninsula in the gulf of the same name; lat. $42^{\circ} 34' 7''$ N., long. $8^{\circ} 45' 16''$ E. Pop. 2,069 in 1861. The town has a good harbour and road; but derives its principal consequence from its strong citadel, flanked with five bastions. It was taken by the English in 1794, but not till after a siege of 51 days.

CAMARGUE (LA), a river island of France, *dép.* Bouches-du-Rhône, being, in fact, the delta of the Rhône. It is of a triangular form, and extends from Arles to the sea; having E. the Great Rhône, or main branch of the river, N. and W. the Little Rhône, and S. the sea. It is quite flat, and is supposed to contain about 55,000 hectares, of which about 12,000, lying principally along the river, are cultivated; the rest consists of lagoons,

marshes, and wastes. The lagoons, particularly that of Vulcaris, are very extensive: they mostly situated in the centre of the island along the sea coast, where the ground is *lœss*. Except in certain districts, where sand predominates, the soil is, in general, very fertile. The cultivated portion produces excellent crops of wheat and barley; and the marshes and other grounds feed large flocks of sheep during winter, with great numbers of cattle and horses. The latter have many properties of the Arab horses, and are hardy, and highly esteemed for the saddle. The oxen are a small breed, but strong and active; and being bred up in a state of the most perfect freedom, are very wild. Considerable tracts are covered with a salt efflorescence, a consequence of the subsoil consisting of sea sand. The pernicious influence of this salt impregnation is in some parts counteracted by inundating the country with the waters of the Rhône. A good deal of salt is produced. It is proposed to attempt the drainage of the lagoon and marshes, by cutting a canal for that purpose. In summer the air is very unhealthy.

CAMBAY, a marit. town of Hindostan, prov. Gujerat, in the Guicowar's dom., formerly a celebrated and flourishing sea-port, but now much decayed, through the filling up of the bay, at the head of which it stands, by the deposits brought down by the rivers. It is 72 m. NNW. Surat, 200 m. N. Bombay. Pop. about 10,000, almost equally divided between Hindoos and Mohammedans. Various Hindoo and Mohammedan edifices are still to be seen, amongst which is a very beautiful mosque, close to the nawab's residence: its main court contains 360 pillars of a handsome red sandstone, the material for which was brought, it is said, from Cutch. There are also the remains of a subterranean temple, said by some to be of Jain, but believed by others to be of Buddhist origin: it consists of two chambers, one over the other, and about 20 ft. sq. In the lower chamber three sides are occupied by empty niches; in the fourth there is a double row of white marble idols, having in their centre a gigantic idol 7 or 8 ft. high: they are all alike, with a mild aspect, the legs crossed, and a lotos flower on the sole of the foot. In the upper room the figures are similar, and in one corner there is a black marble idol of the same size and appearance as the one beneath; none of the other figures here are more than 2 ft. high. Many emigrants from Persia formerly settled here, after the civil wars in that country and conquests of Nadir Shah; and it has still thirty or forty Parsee families. The silversmiths here emboss very neatly, by filling the articles to be operated on with gum lac, and then punching the figures with a small chisel; but the chief industry consists in the manufacture of cornelian, bloodstone, agate, &c. ornaments. These stones, when intended for beads, are chipped into a roundish figure, and afterwards rolled together in bags for several weeks, till they become perfectly spherical: when a flat surface is required, the stones are sawn by means of a mixture of gum lac and quartzose substances, which readily fuse together, and harden as they cool, when they are formed into cutting instruments. Cambay formerly exported silks, chintzes, gold, stuffs, &c.; but these manufactures have dwindled away: the town was given up as a trading station. Heavy goods have almost ceased being shipped at Cambay, and most of the Gujerat cotton is now sent to Gogo. The surrounding country is pleasant and rich, but not generally well cultivated; it yields ample returns of wheat and Hindostanee grains, indigo, cotton, oil-seeds, and excellent tobacco: some grain and indigo are exported to Bombay, and tobacco, from which many

limitations of Manilla cheroots are made. This city and territory prospered under the Moguls; in 1580 it was tributary to the Mahratta peishwa, since whose fall his rights have devolved on the British gov., to whom the nabob yields allegiance.

CAMBERWELL, a par. of England, co. Surrey, E. div. Brixton, hund. a suburb of the metropolis, on its S. side. Area 4,570 acres. Pop. 28,231 in 1831, and 71,488 in 1861. The more ancient part of what was formerly designated the village of Camberwell, including the Green, is mostly occupied by shops, and is supplied with water from the works of the S. London Company. The more modern mansions are mostly detached handsome houses, occupying the rising ground to the S. and S.E. of the former; known as the Grove, Champion, Denmark, and Herne hills. Within the last few years, the whole of Camberwell has been greatly intersected by railways. The parish church, supposed to have been built in 1520, and enlarged and improved in 1786, is in the later Gothic style, having a low embattled tower, with many interesting monuments. There are numerous other churches, among them Camden Church, and one beside the Surrey Canal, built by the church commissioners in the Grecian style, and forming the district church of St. George. There are also a great number of dissenting chapels; a free grammar-school, founded in 1618 for 12 boys, is endowed with an estate valued at 200*l.* a year. There is a green-coat school, on the national plan, on Camberwell Green, and a similar one, attached to Camden church, founded in 1810; 3 or 4 other schools have small endowments; and there are some minor charities. The grounds of the S. Metropolitan Cemetery, in this parish, form an extensive enclosure, tastefully laid out, with a chapel and other offices and catacombs. The agricultural portion of the parish is fertile; and market-gardens and nurseries employ part of the population. The majority, however, are more or less engaged in the general business of the metropolis. The Surrey Canal terminates in it. On Ladland Hill, S. of Camberwell, was a quadrilateral Roman camp, with a double entrenchment. In digging the canal, in 1809, a Roman way was discovered, formed of square blocks of chalk, secured with oak piles, which has made some suppose that this was the place where the Roman legions first crossed the Thames: 3 ancient wells, on Well Hill, in the parish, are supposed to have originated the name.

CAMBOJA, or **CAMBODIA**, a country of India beyond the Ganges, formerly one of the most flourishing in that peninsula; but at present divided between the empire of Anam and the kingdom of Siam. It lies between lat. 8° 30' and 15° 30' N., and long. 108° and 107° E.; having N. Laos, E. Cochin China, W. Siam, and S. the ocean. It is enclosed E. and W. by two of the great mountain chains, which, passing S. from Yunnan, traverse the Ultra-Gangetic peninsula; on the sea-shore, it presents a vast alluvial flat, stretching for a considerable distance inland. It has several rivers, one of which, the Mekon, ranks amongst the largest in Asia; and another, the river of Saigon, is perhaps, in all respects, the finest river in that continent for navigation. The interior of Camboja is scarcely at all known by Europeans: it contains large forests, producing some teak, and many *sao* trees, a hard black timber, called *guo*, eagle and rosewood, and various other woods fit for cabinet-work, dyewoods, areca, stick lac, sugar-cane, and pepper. The celebrated gamboge gum is said to be obtained from a species of *Garcinia*, by making

incisions in the bark, from which the gum exudes, and is collected in vessels, in which it soon becomes concrete, and fit for the market without farther preparation. Besides the articles already named, Camboja exports cardamoms, ivory, hides, horns, bones, dried fish, &c. in considerable quantities, and imports silks, China and lacquered ware, tea, sweetmeats, tin, and *tutenague*. (See SAIGON.) In person, manners, laws, and state of civilisation, the inhabitants more closely resemble the Siamese than any other people: most of them are Buddhists; but there are a few Christians. The latter faith was first introduced by the Portuguese Jesuits in 1624.

In 1809, in consequence of dissensions in the country, it was invaded by both the Siamese and Anamese, when the latter made themselves masters of Penombeng, the modern capital, together with the person of the king, and took possession of a large tract of country on the sea-coast, from communication with which, the Emperor of Anam, in 1819, interdicted all foreigners, declaring Saigon the emporium of his S. provinces. In 1820, the final partition of this country took place.

CAMBOJA, an inl. town of India beyond the Ganges, the ancient cap. of the above territory, on both sides the Mekon, nearly 200 m. from the sea; lat. 13° N., long. 104° 35' E. The Chinese writers of the 18th century give a very florid description of its magnificence at that period, but it is now in a state of decay.

CAMBOURNE, or **CAMBORNE**, a town and par. of England, co. Cornwall, hund. Penwith. Area of par. 6,900 acres. Pop. of par. 14,056, and of town, 7,208 in 1861. This is a neatly-built and, for the most part, modern town, on an elevated site, 12 m. WNW. Falmouth, near the SW. limits of the chief mining district of the co., many of the oldest and most productive mines of tin and copper being in its immediate neighbourhood, and furnishing employment, not only to the inhab. of the town, but to the 3 or 4 considerable hamlets, and the cottages every where dispersed over the parish. The church is a handsome structure, in the latter Gothic style: there is also a chapel of ease, and several large dissenting chapels, chiefly for the various sections of the Wesleyan Methodists; a free school, founded in 1763, for 12 boys and 8 girls, has a revenue of 21*l.*; there are also several large Sunday schools. Market, Saturday; fairs, chiefly for cattle, March 7, Whit-Tuesday, June 29, and Nov. 11. Petty sessions for the hund. are held weekly in the town.

CAMBRAY, a well-fortified town of France, dép. du Nord, cap. arrond., on the right bank of the Scheldt, 32 m. S. Lille; on the Northern railway. Pop. 22,557 in 1861. Its fortifications were improved by Vauban, and it is further defended by a strong citadel. It is pretty well built, and has a magnificent *place d'armes*. Its principal public buildings are the cathedral, the hôtel de ville, and the theatre. It has a tribunal of original jurisdiction, a communal college, a diocesan seminary, with 380 scholars; a secondary school, a society of emulation; with schools of design, sculpture, painting, and anatomy; and a public library, containing 50,000 volumes.

Cambray was formerly an archbishopric; and has to boast of having had Fenelon, who died here in 1715, among its prelates. In 1793, during the revolutionary phrenzy, the body of Fenelon was torn from the grave, and the lead of his coffin cast into bullets. The old cathedral was, at the same time, totally destroyed. A handsome monument, the work of David the sculptor, was erected to the memory of Fenelon, in the present catho-

dral, in 1825, under which his remains have been deposited. In 1802, the archbishopric of Cambray was changed into a bishopric.

This town has been long famous for its manufacture of fine linens and lawns, whence all similar fabrics are called in England *cambrics*. It also produces thread; carries on several branches of the cotton manufacture; and has soap-works, tanneries, and salt-refineries. A greater number of hands are occupied in the adjoining communes in the linen manufacture. It has a considerable trade in wool, flax, butter and hops. The navigation of the Scheldt begins here, and it communicates with St. Quentin by a canal.

This is a very ancient city, having been a place of considerable importance under the Romans. It is celebrated in diplomatic history for the famous league, known by its name, concluded here in 1507, against the republic of Venice; and for a treaty of peace negotiated in 1529 between Francis I. and Charles V. It was taken from the Spaniards by Louis XIV. in 1667, and was confirmed to France by the treaty of Nimègue. The British took it by escalade in 1815, after the battle of Waterloo.

CAMBRIDGESHIRE, an inland co. of England, having N. co. Lincoln, E. Norfolk and Suffolk, S. Essex and Hertford, and W. Bedford, Buckingham, and Northampton. Area 548,480 acres, of which about 500,000 are supposed to be arable, meadow, and pasture. Pop. 181,585 in 1861. Surface, except in the S. parts, where it is diversified, for the most part flat and naked. Soil clayey and stubborn. It is divided into two portions by the river Ouse, and is watered besides by the Cam and the Nene, or Nen. The most northerly portion of the co. consists principally of the district called the Isle of Ely, which has separate jurisdiction within itself. This district, which is naturally a marsh, is included within the great level of the fens; and is rendered habitable only by a most expensive system of drainage, by which the water is raised and conveyed away in channels, kept at a higher level than the surrounding country. Agriculture is in rather a backward state, the land under tillage being frequently foul and out of order. Wheat, oats, beans, and potatoes are the principal crops in the fens; and barley in the elevated grounds. Flax and hemp are also raised in the fens; and cole is extensively cultivated as food for sheep. The rich meadows in the valley watered by the Cam are principally appropriated to the dairy husbandry, and Cambridge butter has long enjoyed a high reputation. The large, thin, cream cheese, made at Cottenham, is admitted to be the first of its class. Heavy cart horses are extensively bred. The rich grass lands are mostly depastured by short-horned cattle and long-woolled sheep. Cambridge, as well as Huntingdon, is overrun with pigeon-houses. Estates of all sizes: some large, but many small, some being worth only from 20*l.* to 50*l.*, and 100*l.* a year. Size of farms equally various, and held mostly at will. Farm-houses inferior, and cottages decidedly 'bad.' Manufactures and minerals of no importance. The co. contains 18 hundreds, exclusive of the Isle of Ely, and 167 parishes. Principal towns, Cambridge, Ely, Wisbeach. In 1861 it had 37,634 inhab. houses. It sends 7 mems. to the H. of C., viz. 3 for the co., 2 for the University, and 2 for the bor. of Cambridge. Registered electors for the co. 7,176 in 1865. The gross estimated rental assessed to poor rate was 950,509*l.* in 1861, and the amount assessed to property tax was 1,026,370*l.* in 1857, and 1,140,629*l.* in 1862.

CAMBRIDGE, a par. bor. and town of England, co. Cambridge, hund. Hendish, the seat of one of the great English universities, on the Cam.; 4*½* m. N. by E. London by road, and 5*¾* m. by Great Eastern railway. Pop. 26,361 in 1861. The town is situated in an extensive level tract, that scarcely presents any inequality, with the exception of the Gog Magog hills, 4 m. SW. of the town; and the greater part of its public structures, with their walks and gardens, are embosomed in wood. Owing to these circumstances, the approach to Cambridge is unimpressive; but the noble chapel of King's College, the tower of St. Mary's, and the spire of Trinity Church, rise above the trees, and break the general uniformity of the outline. The greater portion of the town stands on the SE. bank of the river. The streets are mostly narrow and irregular. There are two principal lines, which unite on the NE. side, near the iron bridge over the Cam; from these smaller streets diverge on either side, all of which are paved, sewered, and lighted by gas. The chief supply of water is derived from a spring 3 m. distant, and conveyed by an aqueduct, under some of the principal streets, to a public conduit in the market-place. For this the town is indebted to Hobson, the horse hirer, whose determination to let his horses in strict rotation gave rise to the well-known proverb of 'Hobson's choice.' There are fourteen distinct parishes, and a corresponding number of churches. St. Mary's, a stately Gothic structure, forms one side of a quadrangle, in which the public library and senate-house are also placed; it is occupied both by the parish and the university; St. Sepulchre's, built in the reign of Henry I., in imitation of that of the Holy Sepulchre at Jerusalem; and Trinity Church, an ancient cruciform structure, are the only churches worth notice. The Baptists, Independents, Friends, Primitive Methodists, and Wesleyans have chapels. There is a free grammar school, founded by Dr. Perse in 1615, originally for 100 scholars, but now educating sixteen; they have preference of the Perse fellowships and scholarships in Caius Coll.: a national school, founded in 1808, and extended in 1816, educates 600 boys and girls: in this the old, or Whiston charity schools, have merged. In nine distinct sets of almshouses, fifty-six poor persons are wholly or partially supported: there are also benefactions for various other charitable purposes, held in trust by the corporation; and a general infirmary, called, from its founder, Addenbrooke's Hospital, in which about 1,000 patients are annually relieved. The market-place occupies two oblong squares in the centre of the town, at the head of which stands the shire-hall, and behind it the town-hall. The gaol, built on Howard's plan in 1810, is in the yard of the ancient castle (of which little more than the gateway remains) at the NW. end of the town—the only comparatively elevated portion; near it is an artificial mound, whence an extensive view is commanded. The various structures connected with the university form, essentially, a part of the town, mostly on its W. side. There is a musical society on a large scale, and great musical festivals are held, at intervals, in St. Mary's Church. The Cam, formed by the junction of several small streams about 4 m. from the town, is made navigable for barges up to the town: it joins the Ouse not far from Ely, by which a water communication is continued to Lynn Regis. There is a daily market for general provisions; but the chief supply is on Saturday. Two annual fairs are held—the first, commencing June 23, lasts three days: it is held on a common near Jesus Coll., and called Pot Fair, from the quantity of earthenware brought to

it: there is a large horse-fair on the first day. The other is Stourbridge fair, anciently the largest in the kingdom, and still of considerable resort, though much curtailed both in duration and importance: it is held in a field near Barnwell, a village adjoining Cambridge, and lasts fourteen days; on two of these horses are sold, and on the others the chief traffic is in wool, hops, leather, cheese, and iron. There are no manufactures carried on; but its situation, at the head of the inland navigation from Lynn, and as a principal station on the Great Eastern railway, occasions a considerable trade in corn, coal, timber, oil, and iron. Since the more perfect drainage of the fens, and the formation of good roads towards and along the E. and SE. coasts, over tracts previously impassable, it has become a considerable thoroughfare, and derives some business from that source: its chief traffic, however, is, directly or indirectly, connected with the university, and the supply of its various wants. The amount assessed to property tax for the borough was 122,872*l.* in 1857, and 120,760*l.* in 1862; the amount assessed to property tax for the university was 30,682*l.* in 1857, and 31,880*l.* in 1862. The borough income averages 17,000*l.* per annum, of which nearly one-half is from rates. The limits of the ancient bor. have been adopted both in the Parl. and Municipal Reform acts, and comprise an area of 3,196 acres. It is divided into five wards, and governed by a mayor, ten aldermen, and thirty councillors. Courts of petty and quarter sessions, and a court of pleas, are held for the borough, from the jurisdiction of which the members of the university may claim personal exemption. The heads of it are united with those of the corporation in the commissions of peace that are issued for the borough. The police is also under their joint control. The improvements in the navigation (which of late years have been very considerable) are under the direction of conservators, three of whom are appointed by the university, three by the corporation, and three by the county magistrates. Part of the corp. rev. of the town is derived from rents of lands and tenements, and tolls of the fairs and markets, which the corp. receive, though the entire control of these, as well as the licensing of public-houses, is vested in the university; there are also 310 acres of common land under the management of the corporation, but on which the inhabitants generally have a right of pasturage. Cambridge has returned two mem. to the H. of C. from the earliest records of parliament. Previously to the Reform Act the right of election was limited to the freemen of the bor. not receiving alma. Registered electors for the bor. 1,787 in 1861. The quarter sessions and assizes for the county are held in this town. The first historic mention that occurs of Cambridge is in 871, when it was ravaged by the Danes. The castle was built by Wm. the Conqueror. In 1249 the first notice of dissensions between townsmen and students occurs. In 1381 (the period of Wat Tyler's riots) the university charters were seized and destroyed by the townsmen, for which Richd. II. deprived them of their own, and vested the university with their privileges. Henry VIII. restored their charter, but with modifications which made them, in many respects, still subordinate to the university. In 1643 the town was garrisoned by Cromwell, who had, previously, twice represented it in the H. of C. No subsequent event of public importance is connected with its history. Bishop Jeremy Taylor and Richard Cumberland (the dramatic writer) were natives of Cambridge.

CAMBRIDGE (UNIVERSITY OF). This celebrated seat of learning and education derives

its origin from certain public schools, established in the town at a very remote but uncertain period, perhaps in the 7th century. The students who resorted to those seminaries lived in lodgings in the town; nor did they, till the 13th century, assume the regular form of a university, as that term was understood in the middle ages. In general, four branches of education, or faculties, were recognised: that of arts, initiatory to the others, and embracing the three superior and four subordinate sciences, or, as they were called in the language of the time, the *trivium* and *quadrivium*—the first comprising the study of grammar, rhetoric, and logic; and the second, that of arithmetic, music, geometry, and astronomy; and the faculties of theology, law, and medicine. In each of these, there were usually two degrees, that of bachelor and master; and the functions of a university, as at present, was to impart the necessary instruction in each, and to confer degrees, or certificates of proficiency. Except the public schools, there were, at first, no other buildings appropriated to academical purposes; but subsequently, public halls or hostleries came to be established for the convenience of the students, and the introduction of some better system of discipline. The students, resorting to each of these chose a principal, or rector, from amongst themselves, whose appointment was sanctioned by the governing body of the university: residence in those halls was, however, never insisted on as an essential requisite. The colleges are of still later origin, and derive their existence from private munificence; the object being to provide lodging and subsistence to a limited number of the poorer class of students. Originally the masters of arts were the public instructors, and were bound to teach others some of the subjects pertaining to their respective faculties: convenience ultimately came to limit this function to a certain number of masters, who also came to form chiefly, or wholly, the governing body; and hence the distinction of *regent* and *non-regent* masters. The appointment of professors in the different faculties, paid by salaries, instead of fees (as was the case with the regent masters), completed the university system on the recognised plan of the period. The general right of lecturing was, however, retained down to a recent date. Such, probably, was the system pursued through the 14th and 15th centuries. The greatest number of students frequenting the university during the period when the public halls formed the residences of the majority, was in the 13th century. From the earlier part of the 14th, downward, the numbers diminished considerably; partly from civil war, partly from the declining reputation of scholastic philosophy, and subsequently, from religious differences; so that, at the Reformation, the halls had been mostly deserted, and the greater part of the students were those on the foundation of the different colleges, which had become numerous, and were nearly the only institutions that survived the religious confusion of the age. It was in 1534 that the university publicly renounced the supremacy of the pope, and in the following year the whole of its charters were resigned to the king, who, however, restored them soon after. Some of the colleges, in the 16th century, admitted independent members in residence; others came to be established, and the remaining halls were converted into colleges. The ascendancy of the college system, however, was effected gradually, through a considerable period. The following are the collegiate establishments of Cambridge, in the order of their foundation:—

Names	Date of Foundation	Founders
St. Peter's Coll., or Peterhouse	1267	Hugh de Balsam, Bp. of Ely
Clare Hall	1326	Dr. Badew; but re-constituted by Eliz. de Burgh
Pembroke Hall	1343	Countess of Pembroke
Gonville and Caius Coll.	1349	Edw. Gonville: John Caius, in 1558, increased and obtained a new charter
Trinity Hall	1350	W. Bateman, Bp. of Norwich
Corpus Christi Coll.	1351	The Brethren of 2 Cambridge guilds
King's Coll.	1441	Henry VI.
Queen's Coll.	1446 1465	Marg. of Anjou: re-founded by Consort of Edw. VI.
Catharine Hall	1476	Robt. Woodlark
Jesus Coll.	1498	Jno. Alcock, Bp. of Ely
Christ's Coll.	1451 1505	Hen. VI., Countess of Richmond & Derby
St. John's Coll.	1511	Countess of Richmond and Derby
Magdalen Coll.	1519	Lord Audley
Trinity Coll.	1546	Hen. VIII., augmented by Mary: it occupies the ground of several suppressed Coll. and hostels
Emmanuel Coll.	1584	Sir W. Mildmay
Sidney Sussex Coll.	1598	Lady F. Sidney
Downing Coll.	1800	Countess Sussex Sir G. Downing

Each of these colleges is governed by laws and usages of its own (for the most part established by the respective founders), and is subject to the inspection of its own visitor or visitors, appointed by the foundation charter. Except at King's and Trinity, the heads (masters) of these colleges are elected by the fellows, for life, from among themselves; in general, they must be in orders, and are allowed to marry; their incomes (which vary considerably) arise from the proceeds of a double fellowship, livings attached to the office, &c. They exercise supreme authority in the discipline of their college in respect to education, and the conduct of those *in statu pupillari*, and are associated with the general government of the university, as will subsequently be noticed; but, as respects the government of their college, they form part of the general legislative council, and are assisted by the foundation fellows, who form the governing body in each college. In regard to these last, the ordinary practice is to elect to vacancies, each from the respective students of its own establishment, and, for the most part, from amongst those studying with the view to taking holy orders; time, however, is allowed by the statutes for graduates to make choice of a profession, and, consequently, those who decline after the limited period taking orders have to vacate any fellowships they have been appointed to; vacations also occur by acceptance of college livings, (which, as they fall in, are offered by seniority to the respective fellows,) or by other livings or situations, statutorily incompatible, or by marriage, which is against the statutes in some of the colleges; so that, from these and other circumstances, the succession of fellows, in most of the colleges, is tolerably rapid: when in residence, a considerable part of their board is provided. The incomes are very various, and in each college vary from year to year, being contingent on the college revenues, much of which is derived from rents, varying with the prices of corn and from the falling in of leases. The college expenses also vary, and are paid from a fund set

apart for general purposes, and derived partly from taxation of the fellowships, partly from room-rent, and minor sources of income.

The *foundation scholarships* are subject to different regulations and conditions, peculiar to each college; but they are always elected from among the under graduates, and in the larger colleges, where these are numerous, they form a sort of minor prizes, to be contended for like those of the fellows. The emoluments attached to these scholarships are very various in amount; in regard to discipline and education, they are precisely on the same footing as the independent students.

The *exhibitions* are annual pensions, given in some instances by the colleges, but mostly by free endowed schools elsewhere, to assist such youths as, having been educated at them, are sent to the university: *exhibitioners* are not usually accounted on the foundation. Besides these, there are students of an inferior class, termed *sizar*s, who are provided for wholly or in part by the foundation. The officers of the establishment, such as dean, bursar, &c., are selected by the fellows of each respective college from among their own body; as also the college tutors, to whose charge all the students, whether on the foundation or not, are entrusted. The whole of these must necessarily be in residence; but in respect to the other fellows, it is not in general required, though a number usually do reside, some as private tutors, others for the purpose of study. In some colleges, probationers have to pass an examination previously to being admitted as fellows on the foundation. The instruction given at each of those colleges is preliminary to taking the first university degree of B.A., and is exclusively adapted and directed to that object. This is chiefly attained, not through the public lectures of the university professors, but through the private labours of the respective college tutors. The character and extent of this instruction is determined by the university, by which the degree is granted; but no one is admissible unless he have been entered at, and resided within the jurisdiction of one of the colleges or licensed halls, and has been under the collegiate instruction of his house. Thus the university is formed by the union of 17 colleges, devoted to academic pursuits and the study of all the liberal arts and sciences: it is incorporated (13 Eliz. c. 29.) by the name of 'The Chancellor, Masters, and Scholars, of the University of Cambridge;' and though each college is a body corporate, bound by its own statutes, it is likewise controlled by the paramount laws of the university. The statutes of the 12th of Eliz., which were sanctioned by parliament, and confirmed some former privileges, are the foundation of the existing government, and form the basis of all the subsequent legislation; in fact, no grace of the senate is considered valid which is inconsistent with the statutes of Eliz., and certain nearly cotemporary interpretations of them; or with king's letters, that have been accepted and acted on by the university.

Each college furnishes members both to the executive and legislative branches, collectively termed the senate. It is divided into 2 houses, called the regents' and non-regents' house. The former, or upper house, is composed of masters of arts of less than 5 years' standing, and doctors of less than 2 years; its members wear hoods, lined with white silk; all the rest, who retain their names on their respective college boards (for which a small annual fee is charged), constitute the lower house, and wear hoods of black silk; hence the distinction of white and black-hood houses.

Doctors of more than 2 years' standing, and the public orator of the university (who may be considered as the secretary), may vote in either house, at pleasure. Besides these, there is a council called the *caput*, chosen annually on the 12th Oct. It consists of the vice-chancellor; a doctor in each of the three faculties, of divinity, civil law, and physic; and 2 masters of arts, as the representatives of the regent and non-regent houses. In practice, these are mere nominees of the vice-chancellor; and as the approval of the *caput* is essential previously to any 'grace,' or legislative proposition, being voted on in either house, the substantive government of the university vests in him. He also fixes the days when congregations, or meetings of the senate, are to be held for transacting university business; these, in term time, are usually once a fortnight; but there are also certain fixed times by statute for congregations to be held, for conferring degrees and electing officers. Graces which pass both houses, under the sanction of the *caput*, become acts of the senate, and, if of a public nature, become statutes of the university. An assembly of the senate held out of term time is called a convocation; but, by a grace passed *pro forma*, it is converted to a congregation, and the business proceeds in the usual way. The chief officers of the university are, a chancellor, in whom the executive authority vests, except in matters of mayhem and felony, within the limits of the jurisdiction, which is a mile round, reckoned in any direction from any part of the suburbs; the office is biennial, or for such longer period as the tacit consent of the university may choose to allow. A high steward, who has special power to try scholars impeached of felony within the limits, and to hold courts leet, which is done by deputy. His election is by a grace of the senate. A vice-chancellor, elected annually by the senate (on the 4th of Nov.) from the heads of colleges. In the absence of the chancellor, the powers of that officer vest in him, by the statutes, and he is also, *ex officio*, a magistrate for the university, town, and county. A commissary, appointed by the chancellor, to hold a court of record for all causes to be tried and determined by the civil and statute law and university custom, in respect to all privileged persons under the degree of M. A. A public orator, who may be said to be the speaker of the senate. The assessor, an officer to assist the vice-chancellor in his court. Two proctors, or peace officers, elected annually, to enforce proper discipline and behaviour in all who are *in statu pupillari*, as well as various other duties. They must be M. A. of 2 years' standing, at least, and are nominated in turn by the different colleges, in a prescribed and peculiar cycle of 51 years. There are many other offices of minor importance; among them two moderators, who are nominated by the proctors, and appointed by a grace of the senate, to act as the proctors' substitutes in the philosophical schools, and alternately superintend the exercises and disquisitions in philosophy, and the examinations for the degree of B. A. There are, finally, eight classical examiners, nominated by the several colleges, in term (according to the same cycle as the proctors), and elected by a grace of the senate; four of these are examiners of ineptory bachelors, and four of the junior sophas, in Lent term.

The University is represented in the H. of C. by two members, chosen by the collective body of the senate, the vice-chancellor being returning officer. The privilege was granted by charter, in 1 James I., and at present is vested in the Doctors, Masters of Arts, and Masters of Law of the university, whose names are 'on the books.' The constituency thus formed numbered 4,949 in 1865.

The public professorships in the university are Lady Margaret's, of divinity, founded 1502; the regius professorships of divinity, civil law, physic, Hebrew, and Greek, founded by Henry VIII. in 1540; those of Arabic, one founded by Sir F. Adams in 1632, the other, the Lord Almoner's; the Lucasian professorship of mathematics, in 1663; that of music, in 1684; that of casuistry, founded in 1683; of chemistry, 1702; the Plumian professorship of astronomy and experimental philosophy, in 1704; that of anatomy, in 1707 (there is a good anatomical museum connected with this); those of modern history and of botany, 1724; that of geology, in 1727, by Dr. Woodward, who left his collection of minerals in connection with it; that of astronomy and geometry, founded in 1749; the Norrisian professorship of divinity, in 1760; of natural and experimental philosophy, in 1783; the Downing professorships of English law and of medicine, founded in 1800; that of mineralogy, in 1808; and, lastly, of political economy, in 1828. These professors are paid from various sources. Some of the foundations have estates appropriated to the purpose; others are paid by ancient stipends, in part; and some from the privy purse, or by government. One has 400*l.*, another 200*l.*, the rest 100*l.* annually. The appointment of some of them rests in the senate, of others, in the crown, and of others, again, in special bodies of electors. None of them can be said to be directly concerned in the education of the students, as the attendance on the courses of lectures given by them is not made essential to any of the students (with the exception of those proceeding to the bachelor's degree in civil law and medicine, who are required to bring testimonials of attendance on the courses connected with those subjects). The public income of the university arises chiefly from the proceeds of the rectory of Burwell, from matriculation, and other fees (about 3,000*l.* a year from all these sources), and from the trading profits of the Pitt or university press. The funds are managed by the vice-chancellor and specific trustees, and three annual auditors are appointed by the senate to pass the accounts. Its library claims (under the copyright act) a copy of every volume, map, and print published in the United Kingdom; it is also endowed with a portion of the proceeds of two estates: besides this and occasional donations, a quarterly subscription of 1*s.* 6*d.* is paid by all the members, except sizars, towards its support. A new building, from designs by Mr. Cockerell, was opened in 1854. The Fitzwilliam museum, consisting of a splendid collection of books, paintings, drawings, and sculpture, was left by Viscount Fitzwilliam to the university, in 1816, together with funds for the erection of a building to receive it, which was commenced in 1837. It is an imposing structure, in the Grecian style; the portico, an imitation of the Pantheon of Rome, is ornamented by a group of sculpture, representing Pegasus and the nine muses. The university also possesses a collection of pictures, left by Mr. Mesman; an observatory, built in 1821, at an expense of 18,000*l.*; and a botanic garden of three or four acres. The Cambridge Philosophical Society was established in 1819, for the promotion of scientific inquiry, and the advancement of philosophy and natural history; in 1832, it was incorporated by charter, and all, except honorary members, are required to be graduates of the university.

The degrees conferred by the university are those of Doctors in the three faculties of divinity, civil law, and medicine, and also in the science of music; that of Master of Arts; and the degree of Bachelor in each of the foregoing. Except in the

initiatory degree last named, all examination in regard to proficiency is in reality discontinued, and the higher degrees are conferred as of right on those who have obtained a particular standing, without reference to qualification, or (with trifling exceptions) to residence. The academical year consists of three terms, viz. Michaelmas, Lent, and Easter; and the following are the chief regulations necessary for proceeding to degrees: premising first, that the mode of admission on the boards of a college is either by personal examination of its tutors and officers, or (the more usual plan), through a recommendatory certificate, specifying the age and qualifications of the candidate, signed by an M.A. who has graduated at the university, and accompanied by a deposit called caution money. This is usually done before the end of Easter Term; and, if deemed satisfactory, the name is at once entered on the boards of the college, and the student usually comes into residence the October following, when the academical year begins.

Bachelor of Arts.—Twelve terms on the boards of some college, ten of which in residence.

Master of Arts.—B.A. of three years' standing.

Bachelor of Divinity.—M.A. of seven years' standing: under the 9th statute of Eliz., those who have been admitted on the boards of a college after 24 years old, and have remained so ten years (the two last of which must be in res.), are admissible without having taken any other—these are called *ten years' men*.

Doctor of Divinity.—B.D. of five, and M.A. of twelve years' standing.

Bachelor of Civil Law.—Of six years' standing complete, nine terms of which in res., or B.A. of four years' standing.

Doctor of Civil Law.—B.C.L. of five years', or M.A. of seven years' standing.

Bachelor in Medicine.—Of five years' standing, nine terms of which in res.

Doctor in Medicine.—Similar to that degree in civil law.

Licentiate in Medicine.—M.A. or B.A. of two years' standing.

Bachelor of Music.—The name must be entered on the boards of some college, and an exercise performed.

Doctor of Music.—Usually B.M.

Persons having the rank of privy counsellors, bishops, noblemen, and eldest sons of noblemen, are entitled to have any of those degrees conferred on them without complying with the regulations; and knights and baronets from that of M.A. downward. By a grace passed in 1825, these are to be examined and approved in the same way as others, but they are admissible after keeping nine terms; but though none can claim a degree in right of nobility, &c., yet honorary ones are often conferred, without examination or residence, on eminent individuals.

The respective orders in the different colleges rank as follows:—

1. *The Heads of Colleges*, who are generally of the degree of D.D.
2. *The Fellows*, who are doctors, masters, or bachelors of the different faculties.
3. *Noblemen*, who are graduates, *doctors*, and *Ms.A.*, not on the foundation (the name must be kept on the college boards, the cost of which varies from 2*l.* to 4*l.* a year.)
4. *Bs.D.*, who are ten years' men.
5. *Bachelors of Civil Law* and of *Physic*: these wear the habits, and enjoy all the various privileges of M.A., except that of voting in the senate.
6. *Bachelors of Arts*, who are considered in *statu pupillari*.

7. *Fellow Commoners*, usually younger sons of the nobility, or sons of men of fortune, &c., who have the privilege of dining at the same table as the fellows.

8. *The Scholars*, who are on the foundation.

9. *Pensioners*, who pay for their chambers, commons, &c., and comprise the chief part of the students.

10. *The Sizar*, students of limited means, who usually have free commons and other emoluments.

As all substantial examination for degrees is limited to the initiatory one of *bachelor* (of which that of B.A. is the first, and only really important step), the necessary education of the different colleges is of course directed to that object, and contingent, in its nature and scope, on the qualifications which the university deem fit to exact at their public examinations, and the class-books they order to be adopted for the purpose. The ordinary course of study for B.A. may be comprised under three heads:—natural philosophy, theology and moral philosophy, and the *belles lettres*; and for the attainment of these, the students attend the lectures of the college tutors, which are not formal harangues, but rather of a catechetical nature, intermixed with reading and discussion; at each of which a limited number of the students go through a certain portion of some mathematical or classical work with the tutors. Half-yearly or yearly college examinations usually take place, in addition to these lectures, when the names of the students are arranged in the order of their respective merits. The first public examination of a student takes place in the Lent and October terms of the second year from the commencement of his academical residence. After the examination, the candidates are arranged in two classes—those who have passed with credit, and those to whom the examiners have only not refused their certificate of *approval*. A second examination takes place, in Michaelmas term, of those who have been absent from the former by permission, or were not then approved of: this is termed, in university phrase, the 'little go.' Those anxious to take honours usually engage a private tutor (who is not necessarily of their own college) after this, in order to secure more exclusive attention and assistance. The usual fee of a private tutor is 50*l.* a year. After this preparatory step, those who are candidates for honours perform the college exercises under the superintendence of the moderators; these are usually Latin theses, propounded and opposed in a syllogistic form. The senate-house examination, for the degree of B.A., commences on the Monday preceding the first Monday in Lent term, and continues six days. The previous division of the candidates for honours into four classes has recently been discontinued, and the same questions are now proposed throughout the examination to all whom the moderators judge, from the previous public exercises in the schools, to be qualified for examination as candidates for mathematical honours; and of the six examiners, two confine themselves to mathematical subjects, two to Homer and Virgil, &c., and two to Paley's Evidences and Moral Philosophy, and to Locke's Essay on the Human Understanding, &c. The whole is conducted by writing, and the various subjects and problems may be seen in the annual registers of the university. Those who are not candidates for honours, *ωολοι*, are classed and examined separately, the subjects being—the Acts of the Apostles in Greek, one Greek and one Latin classic, Paley's Moral Philosophy, and certain questions in mathematical and mechanical science, specified in a printed schedule. The de-

degrees are conferred on such of the questionists as pass to the satisfaction of the examiners, by a subsequent grace of the senate, when the oaths of allegiance and supremacy are taken, and a declaration of adherence to the doctrines of the Church of England is required to be signed; but previously to this, on the last examination day, the mathematical *tripsos* or list of those who succeed in obtaining an honour, is exhibited, formed into three divisions, that of *wranglers*, and of *senior* and *junior optimes*, arranged according to merit, or 'bracketted', where two individuals are considered on an equality. The senior wranglership is the highest academical honour obtainable in the kingdom. On the fourth Monday after the general admission *ad respondendum questioni*, an examination commences of all such as have obtained an honour at the mathematical examination of the previous January, and who voluntarily offer themselves for the purpose in classical learning at this examination (which continues five days), translations are required of passages from the best Greek and Latin authors, and written answers to questions arising immediately out of such passages. The names of those who obtain honours are arranged in three divisions (like those in the mathematical *tripsos*), in a list which forms the classical *tripsos* of the year. There are two *tripsos* days, one for *wranglers* and *senior optimes*, the other for *junior optimes*, when these are publicly announced.

The annual prizes of the university form another subject of competition: the classical ones are—the chancellor's gold medals, given to 2 commencing B.A.s, who, having attained senior optimes at least, show themselves most proficient in classical learning: these prizes were first instituted in 1751. A third, first given by the Duke of Gloucester, and continued by the present chancellor, is for the best English ode, or English poem in heroic verse. Many of these have been published, under the title of 'Cambridge Prize Poems': the competition is limited to resident under graduates. The members representing the university also give 4 prizes, of 15 guineas each, which are bestowed on 2 B.A.s and 2 under graduates, who compose the best dissertations in Latin prose. Brown's 3 gold medals, of 5 guineas each, to under graduates, are given for the best Greek ode, the best Latin ode, and the best Greek or Latin epigram. Porson's prize consists of one or more Greek books, given for the best translation of some passage in Shakspeare, B. Jonson, Massinger, or Beaumont and Fletcher, into Greek verse. The mathematical consist of 2 annual prizes, of 25*l.* each, left by the Rev. R. Smith, and given to 2 commencing B.A.s who prove the best proficient in mathematics and natural philosophy. The examination takes place soon after the admission of questionists: the competition is open, and the adjudicators are the vice-chancellor, the master of Trinity, and the Lucasian, Plumian, and Lowndean professors. The second or even lower wranglers occasionally become first prizemen; hence it forms, in some sort, a court of appeal from the decisions of the examiners. *Cateris paribus*, preference is given to candidates of Trin. Coll. In theology, there are the Norrisian and Hales's prizes. The *Seatonian* is a poetical one; the subject is proposed in January, and the poem is to be sent in by Michaelmas: that which obtains the premium is printed from the produce of the estate left for the purpose, the remainder of which is given to the author. The university scholarships are also publicly contended for, and are given to the most successful candidates in classical reading and composition: in this respect they rank first in the classical competitions of the university, and are usually extended beyond

the ordinary range of text-books. The examination is the same for all, but most importance is usually attached to the Pitt scholarship, it being less frequent as well as of greater pecuniary value.

Lodging within the walls of a college is not enforced on under graduates, provided there be no vacant rooms; which may probably account for the greater increase of students matriculated in this than in the sister university of Oxford, where residence within the walls is enforced. The collegiate buildings of many of the establishments have been greatly improved and augmented of late years. Those of Trinity are the largest of any single college in either university; those of St. John have also been increased by a large quadrangle on the left bank of the Cam, forming one of the finest collegiate edifices in the kingdom.

CAMBRIDGE, a town of the U. S. of N. America, Massachusetts, co. Middlesex, on the Charles river, 3 m. WNW. Boston, with which, and the adjacent town of Charleston, it is connected by bridges. Pop. 26,400 in 1860. It is, in conjunction with Concord, the co. town, and the courts are held alternately in each. There is a courthouse, county gaol, arsenal, and several places of public worship. It is the seat of Harvard University, formerly Harvard College, the oldest and best endowed institution of the kind in the Union: it was founded in 1638. The medical school connected with the university is at Boston. The university library, the second in America, contains upwards of 80,000 vols., besides a students' library, with upwards of 10,000 vols. The philosophical apparatus and cabinet of minerals are valuable and complete. Here are a chemical laboratory, an anatomical museum, and a botanical garden, occupying seven acres of land. Since its establishment, this university has received large benefactions both from the state and private individuals. A greater number of students have been educated here than in any other college in the Union.

CAMELFORD, a town and par. of England, co. Cornwall, hund. Lenewth, on the Camel, 205 m. WSW. London. Area of par. 3,750 acres; pop. 1,470 in 1861. The town is meanly built, but the streets are wide and well paved. It has a commodious town-hall, built in 1806; a free school, founded in 1679, and a few minor charities. Market, Friday; fairs for cattle, Friday after March 10, May 26, June 17 and 18, and Sept. 5. Inhab. mostly engaged in agriculture. Camelford returned 2 mems. to the H. of C. from 1st Edw. VI. down to the passing of the Reform Act, by which it was disfranchised.

CAMERINO, a town of central Italy, prov. Macerata, on a hill 5 m. SSW. Ancona, near the railway from Ancona to Rome. Pop. 11,854 in 1862. The town is pretty well built. Among the public buildings are the cathedral, which contains some pictures of the great masters, as does the church of Omanzia; and the archiepiscopal palace, a fine building surrounded with columns. In the principal square is a bronze statue of Pope Sixtus V. It has 12 monasteries, and 7 convents for women; and is the seat of an archbishopric, of a tribunal of primary jurisdiction, and of a university founded in 1727. A good deal of silk is spun and manufactured here; but the business is rather declining.

CAMMIN, or KAMMIN, a town of Prussia, prov. Pomerania, cap. circ., on the Dievenow, about 5 m. above where it falls into the Baltic, 38 m. N. Stettin. Pop. 1,458 in 1861. The town was formerly the seat of a bishopric, suppressed in 1648. The fine cathedral still remains, and the chapter continued down to 1812. There is an asylum for

noble ladies, and an hospital. Distillation is carried on to a considerable extent, and the fishery is very active.

CAMPAGNA, a town of Southern Italy, prov. Salerno, cap. distr., surrounded by high mountains, 18 m. E. Salerno. Pop. 9,459 in 1862. The town is the seat of a bishopric; has a superb cathedral, 3 parish churches, several convents, and a college.

CAMPAN, a town of France, dép. Hautes Pyrénées, cap. cant., on the Adour, 16 m. SSE. Tarbes. Pop. 8,656 in 1861. The houses are mostly built of marble. This town gives its name to a beautiful valley, fertile, and full of life and industry. The cottages are clean and comfortable; and the neat, well laid-out gardens, and respectable dress of the peasantry, evince their comfortable condition.

CAMPBELTON, a sea-port and royal bor. of Scotland, co. Argyre, being, though not the capital, by far the most important town in the co., on the E. coast of the long narrow peninsula of Cantire. Pop. 6,033 in 1861. The borough consists of two leading streets crossing each other at right angles, with adjoining streets of an inferior description. It is built on the SW. side of a large salt-water loch, or inlet of the sea, about 2 m. in length by 1 in breadth, forming an excellent harbour, having from 6 to 13 fathoms water. Two conical insular hills lying in the mouth of the bay, and intercepting the view of the sea, make the harbour look land-locked. Campbellton was at one time a small fishing village under the name of Dalaruan; but having begun to rise into importance, it was made a royal burgh in 1700, when its present name was conferred on it in honour of the noble family of Argyre, on whose property it is built. The par. boundaries of the burgh are very extensive, including the entire parish. The annual value of real property in the burgh amounted to 14,587*l.* in 1864-5; corporation revenue, incl. harbour, 2,124*l.* Campbellton has numerous distilleries and malt kilns. The inhab. also engage extensively in the herring fishery. Coal is got within 4 m. of the burgh, and is brought thither by means of a canal. There is a good quay projecting into the bay, but accessible only at high water. Regular steam communication exists with Glasgow and various parts of the mainland, as also, though less frequently, with Ireland. The climate of Campbellton, though moist in the extreme, is mild; and regarded as particularly salubrious. The burgh unites with Oban, Inverary, Irvine, and Ayr, in sending a mem. to the H. of C. Registered electors 220 in 1862.

CAMPEACHY, a sea-port town of Mexico, W. coast of the peninsula of Yucatan, on the Rio Francisco, 95 m. S. by W. Merida, lat. 19° 51' 15" N., long. 90° 28' 15" W. Pop. fluctuates from about 7,000 to about 14,000. It is walled and defended by some fortifications, which, however, are of little importance. It has a pier about 50 yds. in length; but the water is so shallow that only small boats can come up to it, vessels of considerable burden anchoring at certain distances off shore, according to their draught of water. It is, in common with the whole of this coast, ill-supplied with fresh water, that which is obtained from wells being brackish. It derives its entire importance from its being the great seat of the log-wood trade; that valuable dye-wood, sometimes called Campeachy wood (*Hamatoxylon Campeachianum*), being found in greater perfection and abundance in the adjoining district than any where else. The imports of logwood into this country in 1836, mostly from Campeachy, amounted to 5,637 tons. The other exports are wax, the produce of wild, stingless bees, with some small quantities of cotton, &c. Campeachy was

founded in 1540, and suffered much at different times from hostile attacks, having been sacked by the English, in 1659; by Scott, a pirate, in 1678; and by the buccaneers in 1685.

CAMPLI, a town of Southern Italy, prov. Teramo, cap. cant. 5 m. N. Teramo. Pop. 6,536 in 1862. The town has a cathedral, three collegiate churches, an abbey of Celestine monks, several convents, an hospital, and a *mont de piété*.

CAMPOBASSO, a town of Southern Italy, cap. of province of same name, on the declivity of a mountain, 53 m. NE. Naples. Pop. 12,564 in 1862. The town is fortified; is the seat of a civil and criminal court; and has a collegiate and four parish churches, several convents, a royal college, an hospital, and an almshouse. The best cutlery is produced here; and being traversed by the excellent road forming a communication between the capital and the towns on the Adriatic, it has an extensive commerce.

CAMPO-FORMIO, a town of Austrian Italy, prov. Friuli, four miles SW. Udine. Pop. 1,590 in 1867. The town is famous in history for the treaty of peace concluded here on the 17th of October, 1797, between Austria and France.

CAMPO-MAYOR, a fortified and frontier town of Portugal, prov. Alentejo, 12 m. NNE. Elvas, and 15 m. NW. Badajoz. Pop. 4,461 in 1858. The town is ill-built, with narrow dirty streets, and old low houses; has a collegiate church, two convents, an hospital, and a workhouse. It was nearly destroyed in 1712 by the explosion of a powder magazine.

CAMPOS, a town of the island of Majorca, in an extensive plain, 22 m. SE. Palma, and 7 m. from the sea. Pop. 4,129 in 1857. It has in its vicinity a hot well of reputation; and considerable quantities of salt are made along the coast. The surrounding plain is very fertile.

CANADA, a vast territory of N. America, belonging to Great Britain, lying principally in a NE. and SW. direction, along the N. side of the St. Lawrence, and the N. and E. sides of lakes Ontario, Erie, Huron, and Superior, between 57° 50' and 90° W. long., and 42° and 52° N. lat. It is divided into Upper and Lower Canada, the area of each, and population according to the census of 1861, being as follows:—

	Area Eng. sq. m.	Pop. in 1861
Upper Canada .	141,000	1,396,091
Lower Canada .	205,860	1,111,566
Total .	346,860	2,507,657

Canada is bounded N. by the Hudson Bay territory; E. by the Atlantic Ocean; S. by lakes Huron, Erie, Ontario, the St. Lawrence, and the United States, and W. by Lake Superior. The length of Canada from Amherstburg, on Detroit river, the extreme SW. limit of the prov., to Sablon Harbour, on the strait of Belle Isle, its extreme NE. limit, is about 1,520 m.; its breadth varies from 200 to 400 m. The Ottawa or Grand River, which has its sources in about 48° 30' N. lat., and 80° W. long., and flows in an ESE. direction till it unites with the St. Lawrence, near Montreal, forms nearly in its whole extent, the line of demarcation between the two provs.; Lower Canada, comprising the whole territory lying NE. of the Ottawa, on both sides of the St. Lawrence; while Upper Canada comprises all the territory lying S. and W. of that river. The latter is entirely an inland prov.; but from its having the great lakes and a part of the St. Lawrence for its boundary, it has a vast command of internal navigation, and a ready access to the ocean.

The origin of the population of Upper and Lower

Canada is thus stated in the census returns of 1861:—

Origin	Upper Canada	Lower Canada
England and Wales . . .	114,290	13,179
Scotland	98,792	13,204
Ireland	191,231	50,337
Natives of Canada . . .		
Not of French origin . .	869,592	167,949
Of French origin . . .	33,287	847,615
United States	50,758	13,648
Nova Scotia and Prince Edward Island	4,383	977
New Brunswick	3,214	852
Newfoundland	487	232
West Indies	532	137
East Indies	203	49
France	2,389	949
Prussia, German States, and Holland	22,906	672
Italy and Greece	104	114
Spain and Portugal . . .	96	55
Sweden and Norway . . .	261	229
Russia and Poland	161	56
Switzerland	617	81
Guernsey, Jersey, and other British Islands . .	529	628
All other places	541	128
At sea	323	61
Not known	1,395	414
Total	1,396,091	1,111,566

The N. portion of both Upper and Lower Canada consists of a table land, little of which has been hitherto explored. In Upper Canada, E. of Huron, it has an average elevation of perhaps from 1,200 to 1,300 ft. It is covered with forests, interspersed with ravines, swamps, and torrents; and abounds with lakes, which, anywhere but in the neighbourhood of the immense lakes of this continent, would be deemed of considerable size. The coast of Lower Canada, N.E. of the Saguenay, is less lofty than S.W. of that river; but of a very uninviting description. The interior of this part of the country is described by the Indians and Esquimaux, by whom alone it is traversed, as composed of rocky cliffs and low hills, scattered over barren plains, diversified with thick forests of stunted pines, and chequered with small lakes. There seems reason to suspect that the expectations once entertained of finding here tracts of cultivable land will never be realised; but hopes are still cherished that the district may contain valuable minerals. From the mouth of the Saguenay to Cape Tourment, near Quebec, the shore of the St. Lawrence is bold and desolate; but W. of this point a plain country begins to extend inland, with a variable breadth of from 15 to 40 m., rising into the table-land behind it by successive terraces. The cultivated country N. of Quebec does not extend far, being hemmed in by hill ranges. But as these ranges gradually recede from the St. Lawrence, and the country, at first diversified by varied eminences, sinks into a level plain, the surface of settled and cultivated land increases; and this is especially the case as we approach and penetrate Upper Canada. The peninsula or great plain of this prov., between lakes Huron, Erie, and Ontario, comprising about 20,000 sq. m., consists, for the most part, of alluvial soil, on a calcareous substratum. It is of varying fertility; but, on the whole, is believed to be the best grain country of any of the more N. portions of the American continent. A large part of this fine plain is still covered with lofty forests: it has, however, some prairies, or natural meadows; but these are not extensive. At some remote period it had evidently formed part of the bed of a vast inland sea, of which the five great lakes having been the

deepest, are now the principal remaining portions N. of lake Ontario, two terraces intervene between the plain on the shore of the lake and the table-land in the N., decreasing somewhat in fertility as they increase in height, and separated from each other and from the plain by two ranges of hills of moderate elevation. The most S. of these two ranges unites near long. 80° with a third, which passes N. and S. from Natasawanga Bay, in Lake Huron, to the W. extremity of Lake Ontario. The combined range, after encircling the head of the latter lake, crosses the bed of the Niagara river, forming the ledge over which are the celebrated falls, and is finally lost in the territory of the United States.

That part of Lower Canada S. of the St. Lawrence, extending between long. 72° 30' and 74° 30', and entering into the distr. of Montreal, consists, for the most part, of an extended plain almost completely flat, except that some detached hills diversify the surface, one of which, that of Rouville, is 1,000 ft. in height. It is less extensive than the plain on the opposite shore of the river, and contains no large towns, but it is in many districts equally fertile and well watered, and the cities are dependent on it for a large proportion of their supplies. To the S. and E. it ascends by degrees into the mountainous region, forming the boundary between the British and United States territories. The aspect of the S. shore of the estuary of the St. Lawrence, between long. 69° 30' and 72°, though bold and hilly, is not mountainous, as on the opposite shore; and the hill ranges are interspersed with valleys and even plains of some extent, many of which, from the encouragement afforded by the contiguous markets of the cap., have been brought into very tolerable cultivation. E. of Kamouraska, the country is diversified by more abrupt eminences, while pop. and culture become more limited: and in the district of Gaspé the mountains rise into two chains of considerable elevation, enclosing between them a lofty table-land or central valley. The most southerly of these chains bounds on its S. side the valley of the Ristigouche and St. John rivers.

Besides the great lakes indenting the W. outline of the country, Canada contains numerous minor, yet still considerable, bodies of water. In Lower Canada, the lakes and rivers have been estimated to cover 3,200 sq. m. of surface; the principal of the former hitherto discovered are Lake St. John, with an area of 540 sq. m.; those of Manicouagan, Firetibble, and others N. of the St. Lawrence, and Mephramagog, S. of that river. In Upper Canada, the chief are Nipissing Lake, Temiscaming and St. Ann's, in the high table-land; and the Simcoe Lake in the upper terrace country of the Home district.

Amongst the rivers falling into the St. Lawrence, or into the lakes which form a part of its system, there are some deserving of especial mention for their utility as regards navigation, or their agency in fertilising the soil. In the peninsula of Upper Canada, the Thames originates in the district of London, by the union of several streams, near lat. 43° and long. 81°, and after a course of about 150 m. chiefly S.W., falls into Lake St. Clair, situated between lakes Huron and Erie. The Thames is navigable for large vessels to Chatham, 15 m. up, and for boats nearly to its source. It intersects and waters a fine and fertile country. Besides Chatham, small towns, with the pompous names of London and Oxford, are situated upon its banks. Next in magnitude to the Thames is the Ouse. This river rises in the Home district, about lat. 44°, long. 80° 10', runs generally S.E., and falls into Lake Erie near its N.E. extremity. Parallel

to this river for about 50 m., runs the Welland or Chippeway River, which in one part of its course forms a portion of the canal between the Ouse and Lake Ontario, by means of which the falls of Niagara are avoided. The Trent, in the district of Newcastle, connects the small lakes Balsam, Sturgeon, and several others in the upper terrace country, with the Rice Lake, and after a tortuous course discharges itself into the Bay of Quinté in Lake Ontario. It is said to be navigable for boats in the whole of its course. The Lake Balsam is separated by only a short portage from that of Simcoe, which discharges its waters into Gloucester Bay (Huron Lake) by the Severn River. A short and valuable line of direct water communication between the lakes Huron and Ontario is apparently impeded only by the intervention of this short portage, and by the rapids of the Severn, which river is, however, no more than 20 m. in length. The other affluents of the St. Lawrence and the great lakes are elsewhere treated of. (See LAURENCE, ST., &c.) The Ristigouche, which bounds the district of Gaspé S., and falls into Chaleur Bay, is the only river of any importance in Canada not belonging to the St. Lawrence basin.

Climate.—The climate of Canada is subject to great extremes of heat and cold; the thermometer ranging between 102° above, and 36° below, the zero of Fahr. In such an extensive region there is, of course, some difference in this respect: as we ascend the St. Lawrence, not only a more S. parallel is reached, but the country is less wild and exposed than that near its entrance; so that, whilst Quebec has been said to have the summer of Paris, and the winter of Petersburg, the great plain of Lake Erie has the climate of Philadelphia. Still the Canadian climate, as a whole, must be considered very severe: all the streams are locked up by ice, and the ground is covered everywhere, to an average depth of 5 or 6 ft. by snow, for four or five months of every year. Frosts usually commence in Oct., whilst the weather, by day, is still mild and serene. But with Nov. begins a succession of snow-storms and tempests, from the N. and E., accompanied by a great increase of cold; and this sort of weather usually continues to the second or third week of Dec., when the atmosphere again becomes serene, but the cold still more intense, so that the rivers become suddenly frozen over. Towards the latter part of April, or, in late seasons, the beginning of May, the ice begins to break up; a sudden increase of temperature stimulates vegetation, and makes its growth almost perceptible to the eye; so that spring and summer can scarcely be recognised as distinct seasons. May and June are occasionally wet, to the hindrance of the farmer, whose seed-time this is (to be followed by harvest towards the end of Aug.); but usually the summers are very fine. Thunder-storms are often of great violence, and the aurora borealis is frequent and vivid: of the prevailing winds, those from the SW. are usually accompanied by clear and serene weather; those from the NE. by continued rain in summer, and snow in winter; whilst a NW. breeze is usually dry, with severe cold. Fogs (except in the district of Gaspé) are of unusual occurrence; there, however, they are very prevalent, and seriously obstruct the navigation of the St. Lawrence. It seems to be the general opinion of the inhab. that the winters are gradually becoming less severe; and this may be attributable to the clearance of the forests and the increased extent of cultivated surface; for, whilst the state of climate (especially of humidity) influences vegetation, that, in turn, reacts on climate.

The length and severity of the Canadian winter is a heavy drawback on the country, and lays the

farmer under serious difficulties and privations not experienced in countries where the climate is milder, as in the contiguous territories of Indiana and Illinois. For five or six months almost all agricultural operations are suspended, so that time is not left in the rest of the year for the proper preparation of the ground for the crops and other necessary labours. Horses, cattle, and other farm stock require a proportionally large supply of fodder for their keep; and to these causes must be ascribed the leanness of the animals, the high price of produce, and the cheapness of labour as compared with the U. States. But there is a material difference between the lower and the upper province. In the latter the severity and the length of the winter are considerably diminished. The soil too is generally better; and the quality of the wheat improves nearer to the S. limit of the prov.

Most of the causes that contribute to make the climate of the northern part of America more severe, and subject to greater extremes than that of Europe, in the same parallel, bear with especial force on the Canadian regions. The greater portion of these provinces is covered by extensive forests: the trees composing which (especially in the more northern and eastern parts) do not, generally speaking, attain the same lofty size as those of the U. States, nor flourish with the same exuberant vitality: the pine family, and various species of evergreens, are the most numerous and predominant. Amongst various other kinds of trees are, the silver and American fir, Weymouth and Canadian pines, white cedar (*Thuja occidentalis*), maple, birch, American ash, bass wood, hickory, two or three species of wild cherry, and numerous species of oak. Like the rest of the American continent, most of the plants and animals differ specifically from those of the Old World. Many of the smaller kinds of annual and perennial plants are common to Canada and regions lying much further to the S., which may be accounted for by the high summer temperature, whilst the deep winter snows effectually protect their roots through the severest seasons; but the trees and larger shrubs, which find no such shelter, belong for the most part to more northern and arctic regions. Of the smaller plants, the *Zizania aquatica* may be noticed as peculiar to Canada, and abounding in most of the swamps (a grass not unlike rice, and affording food to birds, and occasionally to the Indian tribes), and the Ginseng, and Canadian lily, common to this country and Kamtschatska. From the sap of the maple (*acer saccharinum*), as it rises in the earlier part of spring, sugar is made in considerable quantities; in collecting which, from trees scattered over thousands of acres, whilst the snow still covers the ground, much hardship is frequently endured: these districts are called sugaries, and are a valuable description of property. The mode of procuring it is by inserting a small cane shoot through an incision made in the bark, the sap being received in a wooden trough placed under it; it is afterwards boiled, and then left to cool into a hard solid mass, of a dark brown colour, which is moulded by the form of the jars which contain it; the value of the article is about half of that produced from the sugar-cane. Most of the oak growing in the woods is unfit for ship-building, and the greater part of the timber used for that purpose is imported from New England. The species called the live oak, which grows in the warmer parts of the colony, is, however, said to be well adapted for ship timber; the various kinds of wood available for no other purpose, serve to supply the pot and pearl-ash manufactories. Amongst the wild animals, ranging through these unclaimed regions, are the American elk, fallow deer,

bear, wolf, fox, wild cat, racoon, martin, otter, and various species of *Viverra* and *Mustela*; the beaver, hare, grey and red squirrel; and, in the more southern parts, the buffalo and roebuck: the bears usually hibernate, if the season has enabled them to get sufficiently fat for the purpose; if not, they migrate to a more southerly climate. (Richardson's Fauna Borealis, p. 16.) Amongst the birds, may be noticed the wild pigeon, quail, partridge, and different kinds of grouse; of the water birds, the species are very numerous, as might be inferred from the general character of the region, where, in the basin of the St. Laurence, and the numerous lakes occupying the elevated table-lands around it, half the fresh water on the surface of the globe is collected; a humming bird (the smallest of its genus) is also indigenous, and may be seen in the Quebec gardens, flitting round the flowers, and constantly on the wing. Amongst the reptiles, the rattlesnake is occasionally met with. Fish, in great variety and abundance, are found in the lakes and rivers; in which respect few streams can rival the St. Laurence; the sturgeon is common, and the salmon and herring fisheries are considerable; seals are also met with occasionally, in large shoals, in the lower parts of the river. Forests can only exist where the prevailing winds bring with them sufficient moisture, but they may usually be taken as a measure of the fertility of the soil, no less than of the humidity of the climate: in this respect, therefore, taken generally, Canada must be considered a fertile region; the upper province much more so than the lower. Tobacco, hemp, flax, and the different kinds of grain and of pulse, are successfully cultivated; as are all the commoner fruits and vegetables of England; melons of different species abound, and are probably indigenous; as are also the strawberry and raspberry: these last flourish luxuriantly in the woods; and on the plains behind Quebec are gathered in great quantities, and taken to that market. Pears and apples succeed well, both there and at Montreal; and on the shores of Lake Erie, the grape, peach, and nectarine, as well as all the harder kinds of fruit, arrive at the greatest perfection.

Canada is supposed to be rich in minerals; iron and copper ore are found in some districts; veins of silver-lead have been met with in St. Paul's Bay (30 m. below Quebec), and coals, salt, and sulphur, are known to exist in the colony. No volcanos have been discovered, but authentic accounts are preserved of several violent earthquakes; amongst others, one in 1663, when tremendous convulsions, lasting for six months, extended from Quebec to Tadousac (130 m. below it), which broke up the ice of the rivers, and caused many great land-slips and dislocations. In 1791, earthquakes were also frequent and violent in the same region; and the shores, both of the Gulf and River St. Laurence (like those of the great lakes, as previously noticed), present many proofs of former convulsions in the horizontal banks of recent shingle and shells, and in elevated limestone strata, with wave-scooped marks, and lithodromous perforations, that occur on various parts of the shores. (Lyell's Geology, vol. ii.)

People.—The majority of the population of Lower Canada are of French origin, as will be seen from the population tables given above. These French-speaking inhabitants are for the most part descendants of settlers from Normandy, established in the colony previously to 1759. Their number at that period was about 70,000, and in 1861 they had increased (according to the census) to 847,615. Neither the conquest, nor the long period which has since elapsed, has wrought any great change

in their character and habits; nor has their increasing numbers induced them to make any considerable encroachments on the wilderness around: on the contrary, they have continued within their original limits, subdividing the land more and more, and submitting to a constantly decreasing ratio of comfort. They are frugal, honest, industrious, and hospitable, but cling with unreasoning tenacity to ancient prejudices and customs; by temperament cheerful, social, engaging, and (from the highest to the lowest) distinguished for courtesy and real politeness, they retain all the essential characteristics of the French provinces previously to the revolution, and present the spectacle of an old stationary society, in a new and progressive world. A few seigniorial families possess large, but not very valuable, properties: the class wholly dependent on wages is a very small one; and the great majority consists of a hard-working yeomanry (usually called *habitans*), amongst whom there is almost a universal equality of condition and property, and of ignorance too; for few of them can read or write. From the public colleges and seminaries established in the cities and other central points by the early possessors of the country, chiefly by the Jesuits (where the education resembles that of our public grammar-schools, and is entirely in the hands of the Catholic clergy), between 200 and 300 annually finish their education, and are dispersed through the community: nearly the whole of these are of the class of *habitans*, and return to reside amongst them, mostly as notaries or surgeons; and thus, living on terms of complete social equality, though with greatly superior knowledge, in communities which possess nothing in the shape of municipal institutions, they possess almost despotic influence over popular opinion and conduct in all public matters. The *habitans* under the old feudal tenures have cleared two or three belts of land along the St. Laurence, and cultivate them on the worst system of small farming; their farms and residences being all so connected, that the country of the seigniories appears like a continuous village. They spin and weave their own wool and flax, and make their own soap, candles, and sugar. What energy and enterprise there exist in the community (beyond the portion required by this sort of routine) is exerted in the fur trade and in hunting, which, it appears, they still monopolise through the whole valley of the Mississippi. (Lord Durham's Report, pp. 11—18.) The Anglo-Saxon portion of the population of Lower Canada consists almost wholly of persons who have emigrated from the United Kingdom, or the descendants of such, subsequent to 1759. A considerable addition was made to their numbers by U. S. loyalists in 1787: at a subsequent period many families from Vermont have settled in the townships adjoining that state, and since the formation of the American Land Company many have emigrated through their exertions. A majority of the labouring class in this portion of the population are Irish Catholics; the rest are English or Scotch Protestants, by whom the resources of the country, so far as they have been called forth, have been mainly developed. It is also by these that the internal and foreign commerce has been created, which is wholly in their hands, as well as a large portion of the retail trade of the province; besides this, they possess the best cultivated farms in the province, and are owners of fully half the more valuable seigniories. (Lord Durham's Report, p. 14.)

The inhabitants of the upper province consist principally of emigrants from the U. Kingdom, and from Germany and Holland. A large proportion of the emigration of Ireland has of late been

directed to the shores of Canada, as will be seen by a glance at the table above given, showing the origin of population. Many of the emigrants who land at Quebec ultimately settle in the U. States, while a comparatively small number of those who land at New York find their way to Canada. Considerable numbers of half-pay officers of the army and navy have been, at different times, established in U. Canada. If we look to the well-being of the emigrants, which is the principal consideration, it is not much to be regretted that so many prefer the U. States. There can be no doubt that the valley of the Mississippi offers greater advantages to industrious immigrants, whether with or without capital, than can be enjoyed in any part of Canada. It has a milder climate, a better and a cheaper soil, and is free from the greater number of those social grievances that disturb and embitter society in Canada. The wonder, in fact, is, not that so many of the emigrants to Canada have left it for the U. States, but that any considerable portion of them should have remained behind.

The native Indian tribes still occupy portions of this colony on lakes Superior and Huron, and along the whole extent towards the N. boundaries; but their numbers are rapidly diminishing, and they are fast degenerating from their original spirit and character, so that the utter extinction of the race seems inevitable, as civilisation advances on the wilderness, to which only they appear to be adapted. It has been said, that without a change in their mode of treatment, 'the fate of the Indians is sealed.' But the truth is, that, however it may be changed, their fate is 'sealed.' Experience has sufficiently proved that the red men are incapable of any real civilisation; and nothing can prevent their extermination other than the abiding by a determination not to enter their territories, or to interfere in any degree with their grounds, habits, or pursuits. But such a determination could scarcely be carried out. America has been settled, civilised, and improved only through perpetual encroachments on the natives; and to say that these should cease, would be to say that vast tracts of fine country should be doomed to continued barbarism.

Tenure and Distribution of Lands.—The land comprised in the seigniorial districts of Lower Canada amounts to about 9,000,000 acres; of this last, the whole has been granted by the crown, subject to an obligation to concede to actual settlers. The grants made by the French government previously to the conquest were on one uniform system. *Seigniories* (or manors containing from 9 to 36 sq. leagues) were created in favour of certain leading individuals, who were bound to grant or 'concede' a specified portion to any applicant; the profit, to the seignior, being derived from payment of a small rent, from services which the *censitaire* (or tenant) was bound to perform; from 1-12th of the corn ground (by compulsion) at the seigniorial mill; and from a fine on the transference of the property (other than by inheritance).

This sort of tenure, copied in great part from the feudal system existing in France previously to the Revolution, was maintained after the British acquired possession of the country. The consequence has been that the French pop. has been confined to a comparatively limited extent of territory, and has never amalgamated with the British; for, by enabling every individual to obtain a portion of land, which, as the pop. increased, became gradually less, without any immediate outlay, young men were tempted to remain at home; and being subject to feudal regulations

and services, the occupiers were bound, as it were, to a routine system. Hence the French Canadians exhibit a singular want of activity and enterprise; and the portion of the prov. which they occupy has a dense and a poor pop., strongly attached, as already seen, to ancient habits and modes of existence.

Since the prov. came under the British government, the plans under which land has been granted and sold have differed very widely at different periods. The lands, when surveyed, have been divided into townships, consisting each of about 70,000 acres, ex 5 per cent. for high-ways. The townships have been granted in many modes, differing both in their character and object: at first, they were granted to settlers in free and common socage, with a reservation to resume all, or any part, if required for military purposes, but subject to no other conditions: the quantity, so granted to each individual, being limited to 100 acres for himself, and 50 acres additional for each member of his family; the governor having authority to increase this amount by 1,000 acres. These favourable terms were meant to attract settlers from the colonies, which now form the U. States. In 1775 this arrangement was superseded, and the *Quebec Act* of the preceding year having restored the French code and language, corresponding instructions were given, that future grants should again be made in fief and seigniority, and three seigniories were thus created. In 1791 the regulations of 1763 were revived, though with certain conditions annexed to them, which in practice were avoided; and this mode continued till 1826: but the constitutional act of 1791 also enacted that a reserve for the support of a Protestant clergy should be made, in respect of every grant, equal in value, as near as could be estimated, to 1-7th part of the land granted. The crown reserves, to a like extent, originated in the view of supplying, first by sales and ultimately by rents, an independent source of revenue, and obviating the necessity of taxes, and consequently of such disputes as had led to the independence of the U. States. These reserves, however, have proved most serious obstacles to the welfare of the colony, which the mis-construction, or violation, of the act, has aggravated, by increasing their extent beyond what appears to have been contemplated. (Lord Durham's Report, Append. B., pp. 6, 7.) From 1806 downward, no new townships were granted; and the grants, on to 1814, were in lots of 200 acres, to actual settlers, and few in number. From the last date, grants were made on 'location tickets,' requiring the erection of a house, and the clearing and cultivating four acres, before the title was perfected. In 1826 the new mode of selling land by auction, at a *minimum* upset price, was adopted, the purchase-money being payable by four annual instalments, without interest. In 1831 the purchase-money was to be repaid by half-yearly instalments; and in 1837, to obviate the bad effects of giving credit on such sales, the purchase-money was made payable at the time of sale. Besides the grants made under these different regulations, other exceptional ones have been made—mostly in reward of public services; such as those to the militia of the revolutionary war, and of that of 1812—there has also been an exceptional sale of nearly 800,000 acres to the British N. American Land Company. The crown reserves must be considered as virtually abandoned when the auction sales were introduced; and an act of the imperial legislature has authorised the sale of 1-4th part of the clergy reserves, at a rate not exceeding 100,000 acres annually. Latterly, however, the system for the disposal of the crown lands by auction, at a fixed

minimum price, has been enforced in Canada as well as in the other colonies.

Of late years a revenue has been derived from timber property in both provinces. Originally the right of cutting timber was a monopoly in the hands of contractors, for supplying that article for the navy, who usually sold licenses to merchants and lumber-men, by whom all the legal trade was in consequence engrossed. In 1824 licenses to cut were first offered by government by auction: the value of an acre of timber, at the price charged for these, is often very much greater than that required for land, and the first instalment has been paid frequently for land solely in the view of cutting down the timber. The Ottawa is the chief seat of the trade, which is in great measure, forced and factitious; and which, while it is of no real advantage to Canada, entails a heavy burden on Great Britain.

Lands in the upper prov. have been granted in the same way as in the lower; and the profuse manner in which these grants have been made, many very extensive tracts having been given to persons who had no intention of settling upon them, coupled with the great extent of the clergy and state reserves, has had a most injurious influence over the colony, and has materially retarded its progress. The lands thus given away to individuals not settling upon them, and reserved, by interposing uncultivated desert tracts between the actual settlers, render it, in all cases, much more difficult and expensive, and sometimes all but impossible, to form roads and other means of communication; so that the cultivators are frequently cut off from a market for their produce; and being settled only in particular districts, they are less able to combine for municipal purposes, and for the establishment of schools and churches, and the undertaking of public works that require co-operation.

The extent of land for sale at the end of 1862 was as follows:—

In *Upper Canada*—Crown lands, after deducting sales and free grants, and adding extent surveyed, 2,839,858 acres, clergy lands 94,838 acres, grammar school lands 51,714 acres, and common school lands 9,767 acres.

In *Lower Canada*—Crown lands, after deducting sales and free grants, and adding extent surveyed 5,908,557 acres, clergy lands 355,998 acres, making a total of 9,260,232 acres for sale in Upper and Lower Canada.

The number of acres of land sold, in the three years 1860–2, was as follows:—

Description of Land	1860	1861	1862
	Acres	Acres	Acres
Crown Lands { Upper Canada .	126,413	257,933	101,511
Lands { Lower Canada .	290,026	273,835	232,186
Total . . .	416,439	531,768	333,697
Clergy Lands { Upper Canada .	62,522	74,366	29,771
Lands { Lower Canada .	44,545	41,299	26,504
Total . . .	107,067	115,665	66,275
Common School Lands .	3,221	4,498	2,249
Grammar School Lands .	6,900	5,729	2,969
Total . . .	533,627	657,660	405,190

Agricultural Statistics.—The actual state of agriculture in both Upper and Lower Canada is shown in the subjoined table, compiled from re-

turns of the Colonial Government. The statistics are for the year 1862:—

	Lower Canada	Upper Canada
No. of Holdings:—		
10 Acres and under . . .	6,822	4,424
10 " " 30 Acres . . .	3,166	2,675
20 " " 50 " " . . .	20,074	26,639
50 " " 100 " " . . .	44,041	64,891
100 " " 200 " " . . .	24,739	28,336
200 " upwards . . .	6,809	5,027
Lands held in Acres . . .	10,375,418	13,354,967
Under Cultivation . . .	4,804,235	6,051,619
" Crops . . .	2,928,133	4,101,902
" Potatoes . . .	1,842,685	1,860,848
" Gardens and Orchards .	33,417	88,869
Woods and Wild Lands . .	5,571,183	7,303,288
Value of Farms in pounds ster. .	35,731,889	61,492,149
" of Farm Implements . .	1,532,749	2,350,064
" of Garden and Orchard Produce . . .	184,304	271,697
Quantity of Land held by Townspeople, not being Farmers . . .	147,293	182,552
Land under Crops:—		
Fall Wheat . . .	5,480	434,729
Spring Wheat . . .	239,289	951,697
Barley . . .	139,442	118,940
Rye . . .	83,931	70,376
Peas . . .	234,035	460,595
Oats . . .	955,553	678,337
Buckwheat . . .	75,605	74,545
Indian Corn . . .	15,012	79,918
Potatoes . . .	118,709	137,266
Turnips . . .	6,475	73,409
Mangel Wurzel . . .	1,230	1,523
No. of Live Stock:—		
Bulls, Oxen, and Steers . .	200,901	99,605
Milch Cows . . .	328,370	451,640
Calves and Heifers . . .	287,611	464,083
Horses over three years old .	185,097	277,258
Colts and Fillies . . .	63,418	100,423
Sheep . . .	682,829	1,170,225
Pigs . . .	286,400	776,001
Produce:—		
Butter . . .	16,906,949	26,828,264
Cheese . . .	686,297	2,687,172
Beef, in barrels of 200 lbs. .	67,054	67,508
Pork " " . . .	196,598	336,744

Canada, as already stated, is supposed to be rich in minerals, but its wealth below ground has only been partially explored. Copper and iron ore are at present the chief produce of the mines. The quantity of copper ore exported in the year 1862 amounted to 5,963 tons, while of pig and scrap iron there were exported 2,408 tons. About two-thirds of the copper ore and the whole of the exports of iron went to the United States, the remaining copper being taken by Great Britain. But the produce of the mines is insignificant to that of the forest, and, still more, to that of agriculture. The value of agricultural produce exported in 1862 was above 15,000,000 dollars, and that of the forest 9½ millions; while the value of the produce of mines was but 703,000 dollars, and that of manufacturing industry less than half a million.

Commerce and Shipping.—The imports of Canada on the average exceed the exports in value. The imports, in 1860, amounted to 7,176,653*l*.; the exports to 7,214,978*l*. In 1861, the imports were of the declared value of 8,969,756*l*., and the exports of 7,627,957*l*. Lastly, in 1862, the imports amounted to 10,125,132*l*., and the exports to 6,999,192*l*. The principal imports are cotton and woollen manufactures and colonial goods, while timber and agricultural produce constitute the chief exports. The subjoined table shows the value of the chief articles of exports during the two years 1861 and 1862:—

Exports	1861	1862
	Dollars	Dollars
Coin and Bullion . . .	244,513	178,997
Copper Ore . . .	440,130	399,688
Fish, Dried . . .	420,631	570,390
" Pickled . . .	203,451	50,241
Ashes, Pot . . .	705,228	985,801
" Pearl . . .	173,779	250,810
Timber: Elm . . .	265,562	202,673
" Oak . . .	626,997	627,817
" White Pine . . .	2,594,388	2,110,048
" Red Pine . . .	508,809	452,113
" Standard Staves . . .	248,653	254,841
" Other Staves . . .	167,385	164,543
" Deals . . .	2,189,792	1,375,808
" Planks & Boards . . .	1,570,381	2,385,726
" Masts . . .	38,101	74,175
Animals: Horses . . .	667,355	664,333
" Horned Cattle . . .	384,599	299,901
" Swine . . .	161,279	59,427
" Sheep . . .	149,220	217,724
Produce of Animals: . . .		
Butter . . .	841,646	1,182,772
Eggs . . .	93,341	53,940
Hides and Pelts . . .	106,121	134,748
Pork . . .	487,698	170,218
Wool . . .	434,199	724,830
Furs . . .	230,596	262,028
Agricultural Products: . . .		
Barley and Rye . . .	1,092,934	1,534,957
Indian Corn . . .	310,637	410,698
Oats . . .	643,023	642,688
Peas . . .	1,497,309	735,927
Wheat . . .	7,684,809	5,515,290
Flour . . .	6,614,665	5,843,884
Manufactures: . . .		
India-rubber . . .	32,062	34,780

Subjoined is a statement giving the number and tonnage of vessels of each nation which entered and cleared at the outports of Canada in the year 1862:—

Nationality of Vessels	Entered		Cleared	
	Vessels	Tons	Vessels	Tons
British . . .	1,955	825,405	1,907	812,560
American (U.S.) . . .	45	18,120	41	17,926
Russian . . .	5	2,682	5	2,682
Norwegian . . .	131	57,393	125	55,322
Swedish . . .	3	1,326	3	1,326
Hanse Towns . . .	16	6,228	16	6,228
Prussian . . .	20	8,867	19	8,568
French . . .	2	39	3	64
Austrian . . .	—	—	—	—
Portuguese . . .	5	854	4	646
Other Foreign Countries . . .	5	1,525	5	1,525
Total . . .	2,187	922,439	2,128	906,847

Shipbuilding is carried on to a considerable extent in Canada. The number of sailing vessels built in the three years 1860, 1861, and 1862, amounted to 286, and of steamers to 39. During the same period 560 sailing vessels and 69 steamers were registered at Canadian ports.

Form of Government.—Canada was ceded by France to England in 1763: it had previously been governed by French military authority; from thence, to 1774, it was under the rule of an English governor and council, with *English law*, administered in the English language only. From 1774 to 1791 it was governed by an English governor and a legislative council, appointed by the crown, with *English criminal* and *French civil law*; and from 1791 downward, by the constitution, previously explained, the colony being then divided into two provinces, each with an independent legislature. Down to 1774, the line of policy pursued was that which, had it been vigorously and systematically followed up, would certainly

have redounded most, in the end, to the advantage of the colony; inasmuch as it would have gradually subverted the institutions and language of France, and established in their stead the institutions and language of England. But the Quebec Act of 1774 introduced a new and more liberal, but at the same time a short-sighted policy. If Canada was to be preserved as an English colony, it should, as far as possible, have been made English in its laws, its language, and in the feelings of the people; and no institution should have been tolerated that might have prevented the gradual and complete amalgamation of the French with the English settlers. The Quebec Act unfortunately proceeded on totally different principles. In order to conciliate the colonists, it substituted the old system of civil law, or that called the *Coutume du Paris*, for the civil law of England, and it directed the use of the French language to be resumed in the law courts. It is probably true that these concessions, by gratifying the Canadians, had some effect in hindering them from joining the American colonists of English origin in their great and successful revolt; and consequently contributed to preserve the prov. for the British crown. Without stopping to enquire whether this has been of any advantage to Great Britain, it seems probable that the difference of language, and the peculiar circumstances under which the French Canadians were placed, would have effectually prevented them, though the Quebec Act had never been heard of, from making common cause with the colonists of New England and the other American colonies. But, whatever opinion may be come to as to this, there can be no doubt that the establishment of French laws and language in the prov. has tended to insulate the French pop., to maintain them as a distinct race, and to restrain, and in a great degree prevent, all intercourse between them and the colonists from England: in point of fact, the French in Canada are now almost as much a distinct people as in 1760. The *Nation Canadienne* has no sympathy, and but little communication, with Englishmen: on the contrary, a broad line of demarcation and a deep rooted antipathy subsists between them.

The basis of the present political constitution of Canada is the act of 81 Geo. III. cap. 31., passed by the Parliament of Great Britain in 1791. By the terms of it, the old province of Quebec—which then embraced the whole of Canada—was divided into the two governments of Upper and Lower Canada, with representative institutions for each. The legislative authority was vested in a legislative council appointed by the crown, and in a house of assembly elected by the inhabitants; the Lower province was under a governor, whilst the Upper was under a lieutenant-governor. This constitution was suspended in consequence of the rebellion in Upper Canada in 1838, and a special council appointed. In 1840 the two provinces were reunited—by an act 3rd & 4th Vic. cap. 35—and the legislative councils of the united provinces were consolidated. The new legislative council consisted of twenty members appointed by the governor for life; while the people were represented in a house of assembly, comprising eighty-four members, returned in equal proportions by the inhabitants of Upper and Lower Canada. A final modification of the constitution, by an act passed June 14, 1853, comprises the fundamental laws now in force. The charter thus established vests the legislative authority in a parliament of two houses, the legislative council and the house of assembly. The former consists of twenty-four members nominated for life by the governor, and of twice the number elected by the people. The

house of assembly comprises 180 members, chosen in 125 electoral districts and boroughs. Members of the house of assembly must be possessed of freehold property of the value of 800*l*. Electors in counties, by a law which took effect in 1855, are required to be possessed of, or to occupy, property of the assessed actual value of 50*l*., or the yearly value of 5*l*.; while electors in towns must be possessed of, or occupy, property of the yearly value of 7*l*. 10*s*. Members of the house of assembly, during session, have an allowance from the public funds. Clergymen of all denominations are incapable of becoming members. The house is elected for four years; but may be previously dissolved by the governor, in which case a new election must take place immediately. At least one session must be held annually, so that a period of twelve months may never elapse between each meeting of the legislature. All proceedings and records of the legislative assembly are ordered to be kept, by the act of 1840, in the English language only. The speaker of the house of assembly is elected by the members; while the president of the legislative council is appointed by the crown for life.

The executive is vested in a governor-general, styled 'Governor-General of British North America,' and appointed by the crown. He has a salary of 7,000*l*. per annum, and holds authority in the name of the sovereign of Great Britain. The governor-general has the power to give or withhold the royal assent to bills passed by the legislative council and assembly, or to reserve the same till the royal pleasure be expressed. Such bills as are assented to by the governor in the name of the crown are, nevertheless, subject to disallowance by the sovereign, within two years after the receipt of authentic copies by one of the principal secretaries of state in Great Britain; and no bills, reserved for the consideration of the crown, can have any force, unless the royal assent be signified within two years after they have been presented to the governor-general. All proceedings and records of the legislature are directed to be kept in the English language only.

Administration of Justice.—The criminal law of England is applicable to the whole of Canada: but, as regards the province of Quebec, the ancient law of Canada, that is, the French laws, are, by the 14th of Geo. III. c. 83. reserved as applicable to all matters of controversy relative to property and civil rights. This reservation, however, does not hold where lands are held in free and common socage; and wills, involving the destination of property, may be executed in conformity either with the laws of Canada or those of England, as the testator may deem expedient. In Western Canada the law of England is universally applicable. The judges enumerated in Schedule A attached to the Act of Union, are the following:—For Upper, or Western, Canada, one chief justice and four puisne judges of Queen's Bench at Toronto, besides a vice-chancellor; and for Lower, or Eastern, Canada, one chief justice and three puisne judges of Queen's Bench at Quebec, and one chief justice and three puisne judges at Montreal; one resident judge at Three Rivers; and one judge each for the inferior districts of St. Francis and Gaspé. The judgments of these courts of Queen's Bench are subject to review in a superior court, or court of appeal, consisting of the governor, lieutenant-governor, or person administering the government, certain members of the executive council, and the chief justice or justices of the province, or any five of these functionaries, excluding always the judge or judges whose decision is appealed against. There are also various circuit commissioners of bankruptcy, and there is a Vice-

Admiralty Court established at Quebec, the governor being, *ex officio*, vice-admiral of Canada. Much litigation goes on both in Upper and Lower Canada, and lawyers are of course numerous in the chief towns. Though the criminal returns for Canada are far from being complete, the extent of crime seems, on the whole, to be small, and on the decrease, when compared with the amount and rapid progress of population in the colony.

Religion and Educational Establishments.—Provision was made by the 81st Geo. III. c. 81. for the support of the Protestant clergy in Canada. By this act, there is allotted for the maintenance of the clergy of the Church of England in the colony, about a seventh part of all the waste lands to be granted to settlers; and the tithes of such Protestants as live within Catholic benefices are to be reserved by the receiver-general of the province, and appropriated to the support of a resident Protestant clergy therein. These are designated the clergy reserves. The governor is empowered to present to any parsonages or rectories to be constituted in the colony. There are five Canadian bishops belonging to the Church of England, while the Roman Catholic Church is governed by one archbishop and eight bishops; and the Presbyterian Church of Canada, in connection with the Church of Scotland, by annual synods, presided over by moderators. The number of members of each religious denomination, according to the census of 1861, was as follows:—

Religious Denominations	Upper Canada	Lower Canada
Church of England . . .	311,565	63,487
" " Rome . . .	258,141	943,263
Presbyterians—		
Church of Scotland . . .	108,968	23,730
Free Church of Scotland . . .	143,043	14,856
United . . .	51,378	5,149
Methodists—		
Wesleyan . . .	218,437	25,957
Episcopal . . .	71,615	2,573
New Connexion . . .	28,200	1,292
Other . . .	23,330	874
Baptists . . .	61,559	7,751
Lutherans . . .	24,299	857
Congregationalists . . .	9,357	4,927
Quakers . . .	7,383	121
Bible Christians . . .	8,301	184
'Christians' . . .	5,018	298
'Second Adventists' . . .	1,050	2,305
Protestants . . .	7,514	2,584
'Disciples' . . .	4,147	5
Jews . . .	614	572
Menonists and 'Tunkers' . . .	3,965	—
'Universalists' . . .	2,234	2,289
Unitarians . . .	634	552
Mormons . . .	74	3
'No religion' . . .	17,373	1,477
Denomination not stated . . .	8,121	528
Other Creeds not classed . . .	14,336	678
Total . . .	1,396,091	1,111,566

Upper and Lower Canada have separate school laws adapted to the religious elements prevailing in either. Each township in Upper Canada is divided into several school sections, according to the requirements of its inhabitants. The common schools are supported partly by government, and partly by local self-imposed taxation, and occasionally by the payment of a small monthly fee for each scholar. The total amount expended on common schools in Upper Canada during 1858 exceeded 208,627*l*. In settled rural districts each school section has a good school-house, furnished with maps, authorised school books, and elementary philosophical apparatus. The salaries of teachers vary from 180*l*. to 40*l*. in country parts, and from 280*l*. to 75*l*. in cities and towns. All

common school teachers must pass an examination before a county board of education, or receive a licence from the provincial normal school, empowering them to teach, before they can claim the government allowance. There are good grammar schools at Montreal and Quebec in connection with the Church of England, which are partly supported by funds derived from the estates of the Jesuits, and partly by fees paid by the scholars. There are also excellent Catholic schools in the same cities, which were endowed with considerable estates by the French government, prior to the close of the 17th century. These estates they still enjoy. There are also between 1,600 and 1,700 common schools, and various colleges and other superior educational establishments distributed over the various counties of Lower, or Eastern, Canada. To support the common schools large sums are annually voted, in addition to the produce of certain estates of the Jesuits (generally exceeding 4,500*l.* a year), which are devoted to the same purpose.

In Upper Canada, still more liberal provision and more strenuous exertions are made for the education of the people. Besides the sums expended in building and repairing schoolhouses, about 100,000*l.* are annually paid to teachers of the ordinary schools throughout the province, which are managed by committees of householders, elected in each district or section. The schools are supported partly by grants and partly by school rates and fees. The course of education prevalent in these schools is much the same as that pursued in similar establishments in Great Britain.

Revenue and Expenditure.—The total revenue and expenditure of Canada during the three years 1860, 1861, and 1862 is shown in the subjoined table. The comparatively large amount of both income and expenditure in 1860 arose from financial operations on a large scale, shown in the subjoined detailed budget:—

Years	Net Revenue		Expenditure	
	Dollars		Dollars	
1860	38,076,425	7,982,588	35,985,748	7,499,114
1861	12,655,581	2,639,596	14,742,834	3,071,424
1862	10,629,204	2,235,841	11,395,923	2,389,185

The public expenditure in 1863 was 8·86 dollars per head, and the funded debt 21·69 dollars.

The amount of the various descriptions of the public debt, the rate of interest, and the amount of interest paid thereon, are shown in the subjoined table:—

Description of Debt	Amount	Interest	
		Rate	Amount
	Dollars	Per cent.	Dollars
Imperial Loan . .	7,300,000	4	292,000
Debentures . . .	922,821	5	46,141
" . . .	80,077,007	6	1,804,620
" . . .	28,630	8	2,290
New Loan . . .	27,264,011	5	1,363,200
Total . . .	65,592,469	—	3,508,251
Less India Bonds—			
At 4 per cent. 846,000	7,300,000	—	356,532
" 5 " 6,453,200			
Total . . .	58,292,469	—	3,151,719
£	12,144,264	—	£656,608

The greater portion of this debt was expended in loans to incorporated companies, and for the building of roads, canals, railways, light-houses, and other works of public utility, which are held as assets.

Railways.—Considering the vast extent of its territory and the thinness of the population, Canada has shown immense enterprise in the construction of railways. Besides a large number of local lines, such as the Erie and Ontario, length 17 m., the Prescott and Ottawa, 54 m., and the Montreal and Champlain, 81 m., and a number of others of equal importance, Canada is traversed by two great iron highways, known as the 'Grand Trunk' and the 'Great Western.' The Grand Trunk railway, which was formed, in 1852, by the amalgamation of seven incorporated lines, viz. the Quebec and Richmond, the St. Laurence and Atlantic, the Old Grand Trunk, the Grand Junction, the Toronto and Guelph, the Toronto and Sarnia, and the Main Trunk, traverses the whole of Canada, from east to west, commencing at Quebec, and ending at Port Huron, at the southern border of lake Huron. Engineering difficulties of the most stupendous kind had to be overcome in the formation of this great railway, some of the works of which, such as the great Victoria Bridge over the St. Laurence, are among the wonders of the age. The total length of the Grand Trunk railway is 1,174 m. The second great railway of Canada, the Great Western, 300 m. long, runs through the interior, or western districts of Canada, commencing at Niagara Falls, and terminating at Windsor, opposite Detroit, on the straits connecting the lakes Erie and Huron. This line brings Canada into direct connection with the vast railway system of the United States.

Armed Force.—In addition to the troops maintained by the imperial government—the strength of which varies according to circumstances—Canada has a large volunteer force, and an enrolled militia, numbering above 200,000 men, rank and file. The militia is divided into three classes, namely,—first-class service men, comprising unmarried men and widowers without children, between 18 and 45; second-class service, married men and widowers with children, between same ages; and third-class reserve men, those between 45 and 60. Assessors each year prepare the militia rolls, distinguishing the three classes, and on the governor calling for a number of men, the warden, sheriff, and county judge meet and ballot for the number required from their respective counties. In Lower Canada, in cases where the assessment system is not in operation, the militia census is made by militia officers appointed for the purpose. The ballot takes place for three years, and in the balloting, the number of battalions required from counties and townships is furnished according to population. In appointing officers for the service battalions, the governor, as a rule, selects those who have qualified themselves by volunteer service or by means of drill associations, or who have shown themselves qualified by examination before boards of examiners appointed for each county or union of adjacent counties. If a sufficient number of competent officers cannot from the outset be obtained, the governor may grant personal commissions, to be withdrawn within a certain time if those to whom they are issued do not qualify themselves. Sums are granted towards the education of officers. A school of military instruction is established in each section of the province in connection with some regiment of the British forces, a certain number of whose officers and non-commissioned officers assist in the work of instruction, and are paid an allowance for the extra duties they have to perform. The government defrays the expenses of travelling and maintenance of those who receive instruction, and the governor-general may at his discretion call out service battalions for

drill, for a period not exceeding six days in one year. The volunteer force of Canada in 1862 consisted of 10,615 infantry, 1,687 artillery, 1,615 cavalry, and 202 engineers. In the session of the legislative assembly of 1863, laws for the re-organisation of the militia were passed, providing that the government shall have power to accept, equip, and clothe 10,000 more volunteers. Fines are imposed on volunteers for non-attendance at drill, in order to insure a thorough military proficiency.

History.—Canada is said to have been first discovered by Sebastian Cabot, in 1497. It was then comprised with the rest of the extensive line of coast, under the general name of Newfoundland, subsequently limited to the island so called. The French first attempted to make these discoveries available, and framed a map of the gulf as early as 1508. In 1525 the country was taken possession of in the name of the king of France, and in 1535 Cartier explored the river, naming it St. Lawrence, from having entered it on that saint's day. Quebec however, the first settlement, was not founded till 1608. For a considerable period subsequent to this, the colonists engaged in a series of sanguinary conflicts with the native Indian tribes, and were often on the brink of being extirpated: the strife, however, ultimately terminated in a friendly compact, which converted the Indians into available auxiliaries against the English. Quebec was taken by the British forces under General Wolf in 1759, and the whole territory was formally ceded to Great Britain by the treaty of Paris, in 1763. The seigniorial rights, the various holdings and tenures under them, and the endowments of the Catholic Church, were left undisturbed; and all the estates, including all the unappropriated lands in the province, held at the period by the French king, became vested in the British crown. In the years 1812–13–14, during the war with the United States, the lakes, and especially the shores of Niagara, were the scene of a succession of severe contests; the war was wholly a frontier one, and the militia on either side being engaged in it, near relatives were found often contending in opposite ranks; Indians also were employed, and increased its horrors. The subsequent history of Canada was comparatively uneventful, except as regards the constant endeavours of certain parties to detach the colony from the crown of Great Britain. To counteract these endeavours, an attempt was made, in 1864, to unite Canada with the other British possessions into a great 'Confederation of British North America.' Though begun under good auspices, the realisation of this plan was found to be impossible.

CANANDAIGUA, a town of the U. S. of America, New York, cap. co. Ontario, beautifully situated on an acclivity at the outlet of the considerable lake of the same name, 88 m. E. Buffalo, and 95 m. NNW. New York. Pop. 6,550 in 1860. The town consists chiefly of two parallel streets, running N. and S., intersected at right angles by several others. It contains a large square, in which are the court-house, prison, and town-house, and it has a state-arsenal, various places for public worship, male and female academies, several large mills and manufactories of different kinds. The inhab. are intelligent, liberal and hospitable. Within three m. of the town, on both sides of the lake, are several sulphuretted hydrogen springs. Canandaigua was founded in 1788, and from its position on its lake, and in the vicinity of the Erie Canal, is a place of considerable commercial importance.

CANANORE (*Canara*), a marit. town of Hin-

doestan, prov. Malabar, at the bottom of a small bay, 45 m. NW. Calicut, and 66 m. SSE. Mangalore; lat. 11° 42' N., long. 75° 27' E. It trades with Bengal, Arabia, Sumatra, and Surat, from which it imports horses, piece goods, almonds, sugar, opium, silk, benzoin, and camphor; its exports are chiefly pepper, cardamoms, sandal wood, coir, and shark-fins. It is the cap. of the talook of Cherikul, a lofty and uneven track, extending for two m. inland from the fort, and some years since containing together with the town about 11,000 houses. Its territory is now subordinate to the British, but has long been governed by a succession of female sovereigns, whose authority has extended over most of the Laccadive islands. Cananore is the head military station of the British dominions in Malabar prov.

CANARA, a marit. prov. of Hindostan, presid. Madras, comprising the ancient countries of Tulava and Haiga, with small portions of Malabar and the Hindoo Kaukana. It lies chiefly between lat. 12° and 15° N., and long. 74° and 76° E.; having N. Goa and Dharwar (Bejapoor), E. the latter province and Mysore, S. Coorg and Malabar, and W. the ocean; length, N. to S., 280 m.; average breadth, about 85 m.; area, 7,477 sq. m. The province is bounded by the W. Ghats, but includes a portion of the country above them, called Carnata, of which the name of this distr. is a corruption, most improperly applied. Surface generally rugged and uneven. It has no considerable river, but a number of minor ones, of which Mangalore is the chief. The coast in the S. is occupied by a chain of salt lakes. Soil and climate very similar to those of Malabar. Granite and laterite are amongst the prevailing rocks, and near the sea-shore there is much sandy soil, on which cocoa-palms are grown in great number. The periodical rains are extremely heavy, and set in from the middle of May till the end of Sept., during which ships leave the coast, and a stop is put to all traffic. The country abounds in forests; those in the N. producing teak, and other large timber, sissoo, *bassia latifolia*, prickly bamboo, the varnish-tree of Birmah, *nuz vomica*, *mimosa catechu*, casia, sandal wood, wild pepper, and a species of nutmeg; those in the S. containing teak, mango, caryota palm, and much jungle, greatly infested with tigers. Canara is the granary of rice for Arabia, Goa, Bombay, and Malabar; and both the climate and soil, especially in the valleys, are highly adapted for its culture. Sometimes 50 bushels a year are obtained from an acre; and in the S. the land frequently yields two or three crops during the same period. Besides rice, sugar-canes, pepper, betel-nut, and cucurbitaceous plants, are grown. Husbandry is better here than in Malabar; the plough is a neater implement, and manure of both leaves and dung is made use of: some cultivators employ 25 ploughs, although full half of them use no more than one. Rice is thrashed by beating handfuls in the straw against a bamboo grating. There are no barns, and the grain is kept in straw bags hung up in the houses: carts are not used, the roads are bad, and goods have to be conveyed on the heads of the peasantry. There are neither horses, asses, nor goats. All the lands in the S. are private property, but generally much encumbered with mortgages: in the N. mortgages are much less frequent, and the cultivated lands only are the property of individuals: government claims all the hill, forest, and waste land. In S. Canara inheritance in land, goods, honorary dignities, and whatever else is capable of being conveyed, descends in the female line; and instead of a man's own children, those of his sister, or maternal aunt (as is the case in all the

country in the S. part of the Malabar coast) become his heirs, while he has a corresponding right over them, to the extent of selling them for slaves. In Karnata Proper, above the Ghauts, these laws are reversed, and a man's children inherit his property. The lands mostly belong to individuals, who let them, and even frequently mortgage them to cultivators; the land assessment is moderate, being about 80 per cent. on the produce; but the cultivators generally are as much depressed as elsewhere, since they have about 20 per cent. to pay to their landlords, and out of the remaining 50 per cent. to provide live and dead stock, and subsist the slaves. Land, when sold, usually fetches from 8 to 12 years' purchase-money on the clear rent. Many different tribes inhabit Canara. The Jains (see HINDOSTAN) are more numerous here than in any other part of India, and many ancient Jain temples exist in tolerable perfection. Nairs inhabit the inland parts, where, together with Bunts and Sudras, they own most of the land. There are about 50,000 R. Cath. in Canara, mostly descendants of the Portuguese, Dutch, French, and Danish colonists. Canara is not celebrated for manufactures; the chief are those of sugar from the palms, and salt on the coast. The exports consist principally of rice, betel-nut, black pepper, ginger, cocoa-nuts, and oil and raw silk; the imports are cloths, cotton, thread, blankets, tobacco, black cattle, and sandal-wood, for export to Bombay. All the chief towns, viz. Mangalore, Barcelone, and Calliampore, are in the S.

Tulava was governed by its own princes till A.D. 782; from that year till 886 it was subject to the rajahs of Bijanagur; and afterwards to the princes of Ikeri. It escaped the Mohammedan conquests till 1765-6, when Hyder invaded and conquered it, after which it suffered all the horrors of anarchy, till the death of Tippoo in 1799, when it passed into the hands of the British, and under them has become a tranquil and orderly district.

CANARY ISLANDS (Span. *Islas Canarias*; believed to be the *Fortunate Insule* of the ancients), a group in the N. Atlantic ocean, belonging to Spain, between 27° 40' and 29° 24' N. lat., and 13° 32' and 18° 20' W. long., 135 m. NW. Cape Bojador, in Africa, and 650 m. SW. Cadiz. This group consists of seven principal islands, namely, Arrecife, Guia, La Laguna, Orotava, Les Palmas, Santa Cruz de la Palma, and Santa Cruz de Tenerife. The total area of the seven islands embraces 8,256 sq. m., and the pop., according to the census of 1857, amounted to 238,784, divided as follows:—Arrecife, 26,938; Guia, 18,116; La Laguna, 22,648; Orotava, 46,497; Les Palmas, 49,950; Santa Cruz de la Palma, 31,451; and Santa Cruz de Tenerife, also called Gomera y Hierro, 88,184. These are the Spanish names of the seven islands; but English and other gazetteers often describe Arrecife under the name of Lanzarote, Guia under the name of Canara, and Gomera y Hierro as Ferro. Adjoining these chief isles, and included in the Canaries, are several small islands, viz. Graciosa, Clara, and Allegranza. They are called the Little Canaries, are situated to the NW. of Lanzarote, and connected with that island by a bank, on which there is, for the most part, 40 fathoms water. Lanzarote is the most easterly, Allegranza the most northerly, and Hierro, or Ferro, the most southerly and westerly of the group. This last-mentioned island has acquired considerable celebrity, from its having been selected by the early modern geographers as the point where they placed the first meridian, or from which they began to reckon the longitude. In some countries this method of reckoning is still kept up; but the English and French adopt

for their first meridians those passing through the Observatories of Greenwich and Paris. The most W. part of Hierro, or Ferro, La Dabessa, is 18° 9' 45" W. of the meridian of Greenwich, and 20° 30' W. of that of Paris. The islands are all of volcanic origin, very mountainous, their coasts precipitous, and the channels between them very deep. The greatest height of some of them above the level of the sea is as follows:—

	Feet		Feet
Teneriffe (Peak)	11,400	Lanzarote (Montana)	
Canary (El Gumbre)	6,648	Blanca	2,000
Fuerteventura (India)	2,830	Allegranza	939

Teneriffe and its peak, a half extinct volcano, which may be seen at a distance of more than 150 m., will be found elsewhere described (TENERIFFE). In all the islands there are plentiful traces of extinct volcanos; but in that of Lanzarote one burst forth in 1825, which still continues active. The basaltic cliffs in that island rise almost perpendicularly to the height of 1,500 ft.; Allegranza appears wholly composed of a mass of lava and cinders. The Canaries have no rivers, properly so called, but they are watered by numerous brooks, which rise in the higher mountain regions, and, during rains, suddenly swell to torrents. There are few safe roadsteads, and no close harbours: the Great Canary island has, perhaps, more safe anchorages than any of the others, and the Bay of Las Palmas at its NE. extremity offers a spacious haven for ships, secure from all winds except those from the SE., which seldom blow with any violence. The climate, though hot, is generally healthy; the heat being tempered by the elevation of the land, and the prevalence of N. and W. breezes. The temperature is in most parts very equable; the average in Dec. and Jan. has been found to be 67°, in Aug. 76° Fah. The range of temperature is seldom more than four or five degrees in the twenty-four hours. The S. and SE. winds occasionally cause pestilential maladies in the E. Canaries, and bringing intolerable heats, and clouds of locusts, scorch up and desolate the country. The fertility of the lands is in proportion to their humidity. In some parts they produce abundance of wheat, maize, and other kinds of corn, dates, figs, guavas, lemons, olives, and numerous other fruits, of both the torrid and temperate zones; the sugar-cane, tobacco, cotton, orchill, and many perfumes and medicinal plants. They contain, also, woods of pine trees, laurel, and arbutus, and excellent pasturage. The average annual quantities of the principal articles of produce in the entire group are:—

Wine	53,200 pipes	Rye	41,000 bushels
Wheat	360,600 bushels	Pulse	50,000 "
Millet	212,400 "	Potatoes	782,000 cwt.
Barley	384,000 "	Barills	380,000 "

Guia, or Canary, is, perhaps, the best watered and most fertile island; and it and Tenerife are the two best cultivated. Tenerife is the principal seat of the vine culture; the Vidueno and Malvasia wines are exclusively the produce of that island: the vine is, however, largely grown in the others, and the wines produced exported to Europe under the name of Tenerife. The best wine in the E. Canaries is that of Lanzarote, where the grapes grow on a soil of decomposed scoria. Much brandy is distilled and exported. Amongst the other chief products are silk, honey, wax, and cochineal. Game is very plentiful; and they are said to be without either ferocious or venomous animals. Cattle and poultry have been introduced from Europe. The canary-bird (*Fringilla Canaria*, Linn.) is still found in these islands; but in its wild state its colour is grey or linnet-

brown: the plumage of those we are accustomed to see, has derived its hue from repeated crossings. The fishery, which is principally carried on along the opposite African coast, occupies a great number of hands; and it is said that Spain might, in case of emergency, procure 2,000 able young seamen from the islands without distressing the fishery. Sugar, with coarse woollens, silks, and linens, are amongst the manufactures.

The exports of the Canary Islands to the United Kingdom consist chiefly of wine and cochineal. There were exported 16,191 gallons of wine in 1860; 16,826 gallons in 1861; 19,482 in 1862; and 10,069 in 1863. The value of these quantities fluctuated from 4,109*l.* in 1860 to 2,512*l.* in 1863. Of cochineal there were exported from the Canary Islands to the United Kingdom 5,802 cwt., valued at 107,324*l.* in 1860; 10,142 cwt., valued at 155,618*l.* in 1861; 9,852 cwt., valued at 147,046*l.* in 1862; and 7,769 cwt., valued at 134,822*l.* in 1863. The imports from the United Kingdom consist chiefly of cotton and woollen manufactures and colonial produce, and were of the value of 141,670*l.* in 1860; 182,460*l.* in 1861; 152,766*l.* in 1862; and 141,333*l.* in 1863.

Santa Cruz in Teneriffe, and Las Palmas in Canary, are the principal commercial ports. The present inhabitants are probably almost wholly of Spanish origin. The islands are governed by the Spanish laws, the administration of which is directed by an *audiencia* in Great Canary. The governor of the Canaries, who is president of the *audiencia*, resides at Santa Cruz. The three easterly islands form one bishopric, and the four westerly another. There are 41 monasteries and 15 convents, with 423 regular clergy; and the people are said to be equally ignorant and bigoted. They are not, however, deficient either in industry or enterprise. On the contrary, many of them emigrate to America, the Philippine Islands, &c., where they are distinguished by their adventurous spirit. But, at home, such of them as are not engaged in the fishery, are sunk in comparative apathy, produced by vicious laws and institutions. The lands are parcelled out in immense estates, held under strict entail, and the plan followed in letting them to the actual occupiers being as bad as possible, industry is at the lowest ebb, and few or rather no improvements are ever attempted, or even so much as thought of. The military force is composed of 25,000 men. (For descriptions of Santa Cruz, Lagunas, and Orotava, see TENERIFFE.) Las Palmas, in the island of the same name, near its N.E. extremity, lat. 28° 8' N., long. 20° 23' 30" W., has a handsome sea-port town with 18,000 inhab., a cathedral, hospital, college, a mole, many public fountains, and a well-supplied market. In good weather ships anchor within half a mile of the town, but the roadstead is but indifferent. The other chief towns are, Arecife, or Port Naos, in the island of the same name, a well-built town, with 2,500 inhab.; Cabras, 1,000 inhab.; and Santa Cruz, in Santa Cruz de la Palma.

When these islands first became known to Europeans of modern times, they were inhabited by a race of people called Guanches, of a tall and vigorous frame, and who made a determined resistance to the invaders. Though unacquainted with the use of iron, they appear to have arrived at a considerable degree of civilisation; they cultivated music and poetry with success, had a kind of hieroglyphic writing, believed in a supreme being, in a future state of rewards and punishments, and embalmed their dead. Many of their mummies have been found in modern times in caves in various parts of the islands. They are placed erect upon their feet, and are in so remark-

able a state of desiccation, that some of them do not weigh above from 6 to 8 lbs. Their government was oligarchical. Humboldt (Personal Narrative, vol. i.) and Dr. Prichard (Researches, ii. 34.) think that the Guanches were either intimately connected with, or descended from, the Berbers of N. Africa. Many of the Guanches were reduced to a state of slavery by the Spanish and other European traders, by whom the islands were first visited; and those who escaped the scourge of slavery, war, and famine, were mostly carried off by a pestilence in 1494. The Canaries were first discovered by accident about 1330 by the crew of a French ship driven thither in a storm. After several unsuccessful Spanish expeditions, John de Bethencourt, a French gentleman, sailed with a fleet from Rochelle in 1400, and took possession of the chief islands. Bethencourt's heir subsequently disposed of these to a Spanish nobleman, and they afterwards became the property of the Spanish crown: the conquest of the whole of the islands was effected by Spain before the termination of the 15th century.

CANCALE, a sea-port town of France, dép. Ille-et-Vilaine, cap. cant., 9 m. E. St. Malo, and 45 m. N. Rennes. Pop. 6,352 in 1861. The town is situated on the slope of a hill, on the W. side of St. Michael's Bay. At a short distance from the town there are some large rocks, within which there is good anchorage in 5 or 6 fathoms. Excellent oysters are found in the bay, and make a considerable article of traffic. The English made, in 1758, an unsuccessful descent on the coast here.

CANDAHAR, a fortified city of Caubul, in a plain near the Urgundaub river; 200 m. SW. Caubul, 260 m. SE. Herat; lat. 32° 20' N., long. 66° 15' E. Pop. 50,000, the greater proportion of whom are Afghans. The city is of an oblong form, enclosed by a bastioned mud wall, on the ramparts of which three men may walk abreast, and a ditch, 9 ft. deep, surrounds the whole. Candahar is regularly built, most of the streets meeting at right angles: its houses are generally of brick, and often with no other cement than mud. Four long and broad bazaars meet in the centre of the city, in a small circular space about 45 yards in diameter, and covered with a dome, where proclamations are made, and the bodies of criminals exposed. The principal bazaars are each about 50 yards broad; their sides are lined with well-supplied shops one story high; and there is a gate at the end of each opening into the surrounding country, except the N. bazaar, having the palace at its end, a structure in no respect remarkable externally, but containing many courts and buildings, and a private garden. There are many caravanseras and mosques: the principal building of the latter kind is the tomb of Ahmed Shah, an elegant, but not a large, structure, with a handsome cupola, formerly an inviolable sanctuary. A great variety of trades are carried on, and the streets are filled with a noisy and bustling crowd from morning till night; but, unlike most other Afghan cities, there are here no water sellers, the city being well supplied by canals from the Urgundaub, whence subterranean or open water-courses are carried to the different streets; and there are, also, numerous wells. Three of the principal bazaars were at one time planted with trees, and had a narrow canal running down the middle of each; but many of the trees have withered, and if the canals ever existed, they are no longer visible. The vicinity of Candahar is fertile, and abounds with gardens and orchards, producing the finest fruits and vegetables, especially pomegranates; with corn, tobacco, madder, assafetida, and artificial grasses. The climate is mild and healthy. Persian tradi-

tions, and the conjectures of European geographers, agree in assigning the foundation of Candabar to Alexander the Great. The present city was built by Ahmed Shah in 1758 or 1754, who made it the capital of his dominions, an honour which his successor Timour transferred to Caubul.

CANDEISH, a soubah or prov. of the Deccan, Hindostan, between lat 20° and 22° N., and long. 73° and 77° E.; having N. Malwah, E. Gundwana, S. Berar and Aurungabad, and W. Gujerat: length, E. to W., about 210 m.; average breadth, 80 m. It contains parts of three mountain ranges, viz. the Sautpoora mountains in its N.; the Chandore or Adjuntah range, S.; and the Sydaree mountains, or W. Ghauts, in its SW. parts: its principal plain is between these ranges, and opens E. into the plains of Berar, and W. is continuous with those of Surat, from which it is separated by a thick and extensive jungle. The Tuptee river flows through this plain. The Nerbudda forms the N. boundary. Candesh, though interspersed with low barren hills, has a large extent of very fertile territory, watered by copious streams and limped rivulets from the table-lands, which greatly enhance its natural beauties. For thirty years, however, before the British became possessed of it (1819), it had been the scene of continual anarchy, and much of the best land, especially N. the Tuptee, had become overspread with an uninhabited forest, abounding with the ruins of former villages, and swarming with tigers. This prov. is comprised within the several territories of the Guicowar, Sindia, the Nizam, and the British government; the land in those parts belonging to the latter is granted on the most easy terms to the cultivators, but some length of time must elapse before the country recovers its former prosperity. The existing villages are mostly built of mud, and protected by a mud wall and fort, without ditch or outwork. The hill ranges, and the whole country along the courses of the Nerbudda and Tuptee rivers, are inhabited by Bheels, who have been here less disturbed than in any other part of India. They are of small stature, dark complexion, prone to rapine and thieving, go armed with a bow and arrow, and in many respects resemble the hill-people of Bhaugulpore. They eat beef and pork, drink spirits, and bury their dead; yet they pretend to be Hindoos of the Brahmin and Rajpoot castes. They have contributed greatly to the devastation of the province.

Candesh formerly contained a large number of Mahratta fortresses: its principal towns are Boorhanpoor, Aseerghur, Hindia, Nundoorpoor, and Gaulna. Numerous Arab colonists settled here, and early in the 15th century Candesh was an independent kingdom, governed by sovereigns claiming descent from the caliph Omar, who had their capital at Aseerghur: towards the end of that century, it was completely subdued and annexed to the Mogul empire. The decline of Candesh may be dated from 1802, when Jeswant Row-Holkar ravaged it; next year it was depopulated by famine, and subsequently ruined by the exactions of the peishwa's officers, and the predatory incursions of the Bheels, Pindarries, and insurgent bands of the Arabs, who had established themselves in the strongholds. In 1818, when Holkar's possessions in Candesh fell under British dominion, these refractory tribes were either brought into subjection or pacified; or, as the Arabs, obliged to emigrate from India, after having been paid what they were legitimately entitled to by the British government.

CANDEISH, an incl. zillah or distr. of Hindostan, prov. Candesh, presid. Bombay: between lat. 20° and 21° 42' N., and long. 73° 37' and 76° 22' E.;

having N. the collectorate of Surat and Sindia's dom.; E. the latter, and those of the Nizam; S. the Nizam's dom. and the collect. of Ahmednuggur; and W. a portion of the Guicowar's territory; shape somewhat rhomboidal; length, E. to W., about 180 m.; greatest breadth 115 m.; area 12,527 sq. m. Pop. 478,500. This district is for the most part overgrown with jungle; very complete embankments on the various streams, and many dilapidated, though substantially-built dams and aqueducts for irrigation, are met with, which might be again rendered available at a small expense. An organised band of marauders, the Bheels were formerly in the habit of levying a kind of *black mail* upon the villagers, consisting of a portion of the produce of the land; but, by conciliatory treatment, most of them returned to their original occupations as village watchmen and guardians. The agricultural classes are peaceable and inoffensive, but timid and destitute of energy. There are no large or wealthy landholders, excepting the proprietors of certain jaghires granted for military services by the British government. The village constitution exists, but the ryotwary system has been introduced into this distr., to which, in the opinion of gentlemen who have held civil offices in it for a considerable time, it is, from various causes, extremely ill adapted. Grain, cotton, and indigo are the chief articles of culture; but there is much waste land, and the cultivation and revenue have both diminished of late years.

Civil justice is administered by the *punchayet*, or native arbitration; and, in criminal cases, trial by jury has been established. Schools are common in Candesh distr.; every Brahmin, and all who have anything to do with mercantile business, are instructed in reading, writing, and accounts. The Mohammedans are the most ignorant of the population.

CANDIA, or MEGALO-KASTRON, a fortified marit. city, cap. of Crete, on the N. shore of that island, near its centre, 34 m. W. Spinalonga, and 64 m. ESE. Canea; lat. 35° 21' N., long. 24° 8' 15" E. Pop. estimated at 16,000, about one-half of whom are Mohammedans. The city, and hence Crete itself, derived its name of Candia from the word *khandah*, signifying an entrenchment in the language of the Saracens, by whom it was built. Its present fortifications are of Venetian construction; they are massive, bastioned, and furnished with outworks; the scarp wall, a beautiful specimen of art, is in most places 50 ft. in perpendicular height; the sea wall is not above 20 ft. in height, irregular, and but badly flanked. The port is formed by two moles, which, bending towards each other, project about 250 yards into the sea, and are defended at their extreme points by forts. It is at present so choked up by sand and the ruins of the old Venetian docks and arsenal, that a vessel drawing more than 8 ft. water cannot enter. The city has four gates, three on the land side and one towards the sea. Principal streets wide, roughly paved, but clean, well furnished with fountains, and adorned with clumps of trees. Houses generally well built, but have seldom more than one story above the ground floor. The bazaars, which are good, have a Turkish appearance. In the E. part of the city, the houses are mostly interspersed with gardens. Candia is the residence of the Pasha and seat of the provincial council, and of a Greek archbishop. Chief buildings—governor's palace, the Greek cathedral and other churches, many mosques, a synagogue, the remains of two Roman Catholic churches, a light-house on the W. mole, and some good baths. The arched vaults built for the Venetian galleys

still exist, and several other relics of Venetian sway are found. The country immediately round Candia is not particularly fertile. Its prov. comprises all the E. part of the island, and produces chiefly wheat, barley, raisins, and a little cotton.

CANDIA. See CRETE.

CANDY, an inh. town of Ceylon, at the head of an extensive valley, in lat. $7^{\circ} 17' N.$, and long. $80^{\circ} 36' E.$, about 1,400 ft. above the level of the sea, 80 m. ENE. Colombo, and 95 m. SW. Trincomalee. Pop. about 3,000. It is surrounded by woody hills and mountains, varying from 200 to 2,000 feet in height, and stands on the border of an artificial lake; but its situation, though beautiful and romantic, is insecure. At a distance of 3 m. it is nearly surrounded by the Mahavilly Ganga, here navigable only for small boats. Excepting those inhabited by the chiefs, which are tiled, the native houses are built entirely of clay, and thatched. Temples very numerous, and considered almost indispensable appendages to the houses of the opulent; in the greater number lights are constantly kept burning; and in one of them the celebrated tooth, said to have belonged to Boodhi, is still preserved! Since the capture of Candy, residences for the governor and commandant, and a gaol, have been built by the British, and several missionary and other schools established. There is no church, but the district court-house and missionary school-room are made use of for divine service. Candy was anciently the cap. of an indep. kingdom of the same name, which comprised the central mountainous country of Ceylon. It was taken by the British in 1815.

CANEA, or KHANIA (an. *Cydonia*), a sea-port and the principal commercial town of Crete, cap. prov. of same name, on the N. shore of the island, 25 m. from its W. extremity, 64 m. WNW. Candia, and about 140 m. S. the island of Syra. Estimated pop. 8,000, about 5,000 of whom are Mohammedans, and 1,000 foreigners, chiefly Hellenes and Ionians, who engross most of the import trade. The town, inclusive of the port, forms an irregular square, enclosed by walls, with bastions and a ditch on the land side. The present fortifications were constructed by the Venetians, but are inferior, both in magnitude and disposition, to those of Candia. The port is formed by a mole about 1,200 feet in length, prolonged from the NE. extremity of the town to the NW., where it is terminated by a light-house opposite to a fortress defending the harbour's mouth. The port is the best in Crete, and capable of containing vessels of 300 tons burden. Streets wide and well paved, but not clean; houses lofty, old, and rickety, but shops good. At the N. part of the town is a kind of citadel, formerly containing the arsenal and docks. The Venetian galley vaults are still in good preservation. There is a small but excellent lazaretto, and several soap manufactories. Canea is the residence of the provincial governor and of several European consuls, and the seat of the provincial council, and of a Greek bishopric. Strabo and Scylax describe the site and port of Cydonia, so as to leave no doubt that Khania stands upon the identical spot. No vestiges of the ancient city are now to be seen, though some existed at the end of the 17th century. The plain around Canea is celebrated for its beauty; its province comprises all the W. portion of the island.

CANICATTI, a town of Sicily, prov. Girgenti, cap. cant., 16 m. SW. Caltanissetta. Pop. 18,718 in 1862. The town is well built. The greater part of the population consists of agriculturists.

CANNÆ, a village of Southern Italy, prov. Cosenza, near the Ofanto (the anc. *Aufidus*), 8 m. WSW. Barletta. Pop. 4,272 in 1862. The vil-

lage is adjacent to the site of the ancient city of Cannæ, famous for the decisive victory gained in its vicinity by Hannibal, over the Romans, in the year 217 B.C. Never were the talents of a great general more conspicuously displayed than on this occasion. The army of Hannibal was very inferior in numbers, and perhaps, also, in the quality of the troops, to that of his enemies; but the ability of the commander made up for every other deficiency, and with a loss of only 4,000 of his own men, he put 50,000 Romans to the sword, and took 10,000 prisoners. (The English reader will find a good account of this great battle in Ferguson's Roman History, cap. 5; the classical reader may resort to Polybius and Livy.) The scene of action is marked out to posterity by the name of *Campo di Sangue*, 'field of blood;' and spears, heads of lances, and other pieces of armour, still continue to be turned up by the plough.

The city of Cannæ was destroyed the year before the battle; but it was afterwards rebuilt, and was a bishop's see in the infancy of Christianity. It seems to have been abandoned in the middle ages for the cities along the coast.

CANNES, a sea-port town of France, on the Mediterranean, dép. Var, cap. cant., 25 m. E. Draguignan, on the railway from Marseille to Nice. Pop. 7,357 in 1861. The town is situated on the declivity of a hill projecting into the sea; has a fine quay, an old Gothic castle, and an old church. Its port is neither deep nor commodious, and can only be used by fishing boats and small coasting vessels. Napoleon I. landed in the vicinity of Cannes on the 1st of March, 1815, on his return from Elba.

CANOSA (an. *Canusium*), a town of Southern Italy, prov. Bari, cap. cant., near the Ofanto, 15 m. SW. Barletta. Pop. 13,274 in 1862. The old city, said to have been founded by Diomed, or in a period antecedent to the records of Roman history, was in ancient times one of the most considerable cities in this part of Italy for extent, population, and magnificence. Its walls are said to have embraced a circuit of 16 m.; and various ruins still remain to attest its former grandeur. Among these are the remains of an aqueduct and of a vast amphitheatre, with tombs, columns, and triumphal arches. Great numbers of fictile vases of the best period have been found here, surpassing in size and beauty those found in the tombs of any other ancient city. The modern town occupies the site of the ancient citadel. The old cathedral, built in the 6th century, still remains. Its altars and pavements are rich in marbles; and the *verde antico* columns that support its roof are splendid even in their decay. Here is also the mausoleum of Bohemund, so celebrated in the *Jerusalem Liberata*.

Canusium was the place to which the wreck of the Roman army fled after the battle of Cannæ. It seems to have been at the acme of its prosperity under Trajan. It was reduced to its present condition by a series of disasters inflicted on it by the Goths, Saracens, and Normans.

CANOURGE (LA), a town of France, dép. Lozère, cap. cant., in an agreeable and fertile valley, on the Urugne, 9 m. SSW. Marvejols. Pop. 1,912 in 1861. There are some branches of the cotton and woollen manufactures, and some trade in cattle and grain. Excavations made in the vicinity in 1829 have been the means of discovering a number of vases and other remains of Roman pottery, which appear to have been manufactured on the spot.

CANTAL, an inland dep. of France, formed of parts of the ancient districts of Haute Auvergne and Velay, between $44^{\circ} 37'$ and $45^{\circ} 26' N.$ lat.,

and 2° 5' and 3° 14' E. long., bounded by the following depts., viz. N. Puy-de-Dôme, E. Haute Loire, SE. Lozère, S. Aveyron, and W. Lot and Corrèze. Area, 574,147 hectares. Pop. 240,523 in 1861. This is one of the least productive, poorest districts of France. Surface much encumbered with mountains. The highest summit, that of the Plomb-de-Cantal, in the centre of the dept., and whence it takes its name, is elevated 1,856 metres (6,040 ft.) above the level of the sea. There are every where indications of the action of subterranean fires and volcanos; and though steep, the mountains furnish, in summer, excellent pasture. Valleys not very extensive. Between Murat and St. Fleurs there is a level plateau, which may be said to be the granary of the dept. Climate severe, the snow generally lying on the summits of the mountains for seven or eight months together. Several rivers, flowing in different directions, have their sources here; among which may be specified the Cère, Alagnon, Rue, and Arceuil: the Dordogne runs along its NW. frontier. Agriculture in the most backward state; the occupiers being generally poor, and wedded to old practices. The produce of wheat and oats is insufficient for the consumption; but the inhab. live principally on buckwheat, rye, potatoes, and chesnuts. The last, indeed, is the staple article of food in an extensive district, thence called *Chatagnierzy*. Hemp and fine flax are also raised, with various descriptions of fruits, and a little very bad wine. The principal wealth of the dept. consists in its mountain pastures and meadows; partly occupied, in summer, in dairy farming, and partly in the fattening of cattle and sheep. Large quantities of cheese and butter are annually produced. The ordinary yield of a cow is estimated at 75 kilogs. of cheese and 15 ditto of butter. The best cheeses are made in the environs of Salers; they weigh from 70 to 80 lbs.; great numbers of pigs are fed on the refuse of the dairies. Large herds of cattle are also fattened on the mountains. The native breed of sheep is small, and have fine fleeces. Large flocks are brought from the more S. departments, to be fattened during the summer, the fattening and pasturage grounds being often let to the proprietors of herds and flocks from the neighbouring depts. Horses small and hardy, and used for the light cavalry. Numbers of mules, asses, and goats are also raised; the skins of the latter are sent to Milhau to be made into parchment. Honey is an important product. Manufacturing industry is at a very low ebb in this dept. There are a few fabrics of coarse woollens and linens; and these, with coarse lace, copper and brazier's work, wooden articles, paper, and tanneries, include almost all that is worth notice. Numbers of the people annually emigrate in search of employment to Paris, and other parts of France. The inhabitants of the mountains and plateaux suffer severely from the scarcity of fuel and cold in winter. To obviate the influence of the latter, they lie in bed as long as possible, and have their cottages so planned that the family occupies the middle space between the cattle and the barn. Cantal is divided into four arrond., 23 cantons, and 259 communes. The chief towns, which give their name to the arrondissements, are Aurillac, St. Fleurs, Murat, and Mauriac.

CANTELEU, a town of France, dép. Seine Inférieure, on the summit of hills which command the right bank of the Seine, at the entrance of the forest of Roumaris, 4 m. W. Rouen. Pop. 3,430 in 1861. The town commands a fine view of Rouen and the hills by which it is surrounded, the course of the Seine as far as Elbeuf, the valley of Déville, and vast meadows.

CANTERBURY, a city, co., and bor., and the metropolitan see of England, co. Kent, in a fertile, well-cultivated valley, intersected by various branches of the Stour, near the base of the N. Downs, 58 m. SE. by E. London by road, and 82 m. by South-Eastern Railway. Pop. 21,324 in 1861. The town was originally enclosed by turretted walls (the remains of which still exist), and had 4 main streets branching from the centre, each terminating by a gateway, of which the W. only remains. The modern town consists of these and of 4 suburbs, continued in the direction of each, that on the E. side being much the largest. The High Street, along which the old road from London to Dover passes, is of considerable width, with well-built houses on either side, and a handsome guildhall near the centre. The whole is well paved, lighted by gas, and supplied with water; the Stour, which flows through it, divides and makes an island of its W. part. There are 11 parish churches, but, except that of All Saints, they are generally small and insignificant in external appearance. The cathedral is a noble pile, and forms a conspicuous object from whatever part of the city it may be viewed. It stands on the site of the cathedral anciently founded by St. Augustine, in connection with the monastery of Christ Church, established by Ethelbert, king of Kent, on his conversion to Christianity, by St. Augustine, in 597. The oldest part of the present structure dates from 1184: the nave, cloister, and chapter-house are two centuries later, during the best period of the pointed ecclesiastical style; the interior is very fine, and the styles of different ages skilfully adapted to each other; the choir is the most spacious in the kingdom, and the great stained window accounted one of the finest. The structure is of the usual cruciform shape, with a semi-circular E. end, and is 513 ft. in length inside, the central tower being 235 ft. in height: under the whole is an old crypt or under-croft. The ancient celebrity of this cathedral is partly attributable to its being associated with the first establishment of Christianity in England, but more especially to the murder of its famous archbishop, Thomas à Becket, at the foot of one of its altars, in 1171. Becket having been canonised, his bones were, in 1220, removed, with great pomp and expense, from the under-croft, where they had previously been deposited, to the Trinity Chapel, built for the purpose. The anniversary of the day on which they were removed was celebrated as a great festival down to the Reformation; and devotees, not only from every part of England, but of Europe, made pilgrimages to the shrine of the saint, to the enrichment both of the establishment and of the city generally. A supposed pilgrimage of this sort, such as was then usual, was made the medium of a lively description of the characters and customs of his day by the earliest of our great poets, and has been rendered familiar by the engraving of Stothard's 'Canterbury Pilgrimage,' in which the characters described by Chaucer are admirably represented. Erasmus, who saw the fane in undiminished splendour a short time previously to its annihilation, gives a vivid account of its wealth and magnificence. In 1536, however, all high festivals occurring between July and September (which included the chief festival at Canterbury) were forbidden, on the ground of their taking people from the necessary labours of harvest. But this was merely a prelude to more energetic measures; and, in the following year, Becket was thrust out of his place in the catalogue of saints, declared to have been a rebel, his bones being, at the same time, burnt and scattered, and the treasury of his shrine appropriated to secular pur-

poses. Subsequently to this vigorous exercise of the prerogative, the present collegiate establishment was ordained, consisting of a dean, 12 canons, 6 preachers, 6 minor canons, and other subordinates; 8 of the prebendaries being in the gift of the archbishop, the rest in that of the crown. In 1643, considerable injury was done to the cathedral in consequence of a parliamentary order to purify it, and subsequently the nave was converted into temporary barracks for Cromwell's troops. On the Restoration, the choir was refitted for divine service; and now, for many years past, considerable funds have been annually devoted by the chapter to the restoration and improvement of this magnificent old structure, which contains many interesting monumental remains; amongst others, that of the Black Prince. The diocese of Canterbury consists of the co. of Kent (with the exception of the city and deanery of Rochester, and of 8 other parishes, which last are in the London diocese), and the parishes of Croydon and Addington, and district of Lambeth Palace, in the co. of Surrey.

The province comprises 20 other dioceses, and about 100 scattered parishes, called 'peculiar'; its archbishop is primate and metropolitan of all England, and takes precedence of all great officers of state, and of all peers of the realm except those of the royal blood; he formerly had the privilege of conferring degrees in divinity, law, and physic. The revenues of the see amount at an average to 15,000*l.* a year. The succession is traced with tolerable regularity from St. Augustine, A. D. 597. Cardinal Pole was the 70th and the last archbishop under the Catholic system. The site of the ancient palace, near the cathedral precincts, is occupied by modern buildings, leased to private individuals; the present archiepiscopal residence being at Lambeth. There are several dissenting chapels in the town, and a Jewish synagogue. A grammar school founded by Henry VIII., is in the patronage of the dean and chapter: there are 2 masters, and 50 king's scholars. The other public structures are a sessions-house, theatre, assembly-rooms, philosophical institution (with library, museum, and lecture room), and the subscription wells, whose mineral waters were discovered in the latter part of the 17th century, and were for some time in great repute, but have since been comparatively neglected; one spring is a pure chalybeate, the other impregnated with sulphur. The city generally has of late years undergone considerable improvement; the Donjon-field, and a large artificial mound in it, is laid out in public walks, and forms a pleasant promenade. There is little or no trade carried on except what is required for the supply of the town and its immediate vicinity. The silk trade, originally established by Flemish and French refugees (to whom Elizabeth granted the under-croft of the cathedral for public worship), and that of silk and cotton, subsequently introduced, have ceased: but there is a considerable traffic in hops and agricultural produce, large quantities of which are sent from it to London by railway, either direct or through Whitstable, and from thence up the river Thames, by boats. Whitstable, the port of Canterbury, is 6 m. distant from the city, and a railway to it, one of the earliest in England, was opened in 1830. There are four market-places for the sale of meat, and poultry, fish, cattle, corn, and hops: there is a daily supply of provisions, but the chief markets are held, one on Saturday, and another, for fat stock, every alternate Tuesday: there is also an annual statute fair, which begins October 10, and lasts 10 or 12 days, but little business of importance is transacted at it. Canterbury has long been noted

for brawn, which forms an article of some importance in the trade of the place, and is sent to various parts of the kingdom. The hop-grounds of the vicinity afford employment to a large proportion of the labouring population of both sexes.

The parl. and municipal limits of Canterbury are identical. The city, which is a county of itself, contains within the walls 14 parishes, besides ancient monastic precincts. Before the passing of the Municipal Act the city magistrates had no jurisdiction over these precincts, but they are all now under the authority of the civic powers, with the exception of the ville of Christchurch, in which the city and county magistrates have concurrent jurisdiction.

Canterbury has sent 2 m. to the H. of C. from the 23 Edward I.; the right of voting being, previously to the Reform Act, in the resident and non-resident freemen; the freedom of the town being acquired by birth, marriage, apprenticeship, purchase, and gift. The present parl. bor. includes, besides the above par., parts of those of three others, and the bor. of Longport: area 3,658 acres; registered constituency 1,758 in 1865, of whom 749 freemen. It is divided into 3 wards, and is governed by a recorder, mayor, 6 aldermen, and 18 councillors.

This city is of great antiquity, as is proved by the notice of it in the itinerary of Antoninus, and by many Roman remains. A staple of wool was granted by Edward III.; but its chief importance previously to the Reformation was derived from its numerous religious establishments, and the influx of pilgrims of all ranks and conditions. It was also the most frequented thoroughfare to the Continent, and is noticed as such in the charter granted by Henry IV., where it is called, 'a city near the sea, and as it were a port and entrance by which foreigners come to the kingdom.' During the last war, a large body of military were usually stationed here, for whose reception there are three sets of cavalry and infantry barracks. The outer walls of a castle of the Norman period still exist. For some time at the beginning of the present century, the city was decaying, but the establishment of railway communication has raised it to a more flourishing state. Canterbury is now connected with the metropolis by two lines of railway, the South-Eastern, opened in 1846, and the London, Chatham, and Dover line, opened in 1864.

CANTON (called by the Chinese *Sang-Ching*, the provincial city), a marit. city of China on its S. coast, cap. prov. Quang-tong, and residence of the provincial authorities; the principal emporium of the East, and the first port in China at which any Europeans were established. It stands on the N. bank of the *Choo-kiang*, or Pearl River, and the E. bank of its affluent, the *Pe-kiang*, 60 m. NNW. the Chinese Sea, and 1,200 m. S. by W. Peking. Lat. 23° 7' 10" N., long. 113° 14' 30" E. It is nearly square, about 6 m. in circ., built generally upon level ground, except on its N. side, and is divided into two unequal parts, the outer, or Chinese, and the inner, or Manchou (Tartar) city, which are surrounded by one wall, and separated by another. The walls are partly of sandstone and partly of brick, about 20 or 25 ft. thick, and from 25 to 40 ft. high. A line of battlements, with embrasures at intervals of a few feet, raised on the top of the walls all round, are in some places mounted with cannon. The city is farther defended by three forts on the land side, and two on Pearl River; but as a place of strength Canton is insignificant. The outer walls are pierced with twelve gates, and four others lead through the inner wall from the old to the new city: all of these are daily opened at dawn, and

shut at an early hour of the evening, and strictly guarded to prevent the exit or entrance of any one, except upon special occasions. The suburbs are, perhaps, as extensive and populous as the city itself. They fill up the space between the walls and the water's edge on both rivers; those on the W. side are much the largest. The city and suburbs are laid out in a precisely similar manner. Streets numerous, and generally short and crooked, though sometimes of considerable length. They vary in width from about 2 to 16 ft., but are commonly from 6 to 8 ft. wide, paved with little round stones, and flagged, close to the houses, with larger ones, chiefly of granite. Each is closed by strong gates, secured and guarded at night; and streets of business are each devoted to one distinct branch of trade. Several canals, used for the conveyance of passengers and goods, intersect the city and suburbs. Two of the largest run along the outside of the E. and W. walls, and communicate by a third, which passes through the new city. Several smaller ones branch off from these on either side: they are crossed in many places by stone bridges. Houses built chiefly of brick; but mud, stone, and wood are also used in their construction, and many of the habitations in the old city are said to be composed entirely of the former material. Near the river they are raised on wooden piles, and elsewhere are generally erected on solid foundations. Scarcely any are more than one story in height; the roofs of many are flat, and being surrounded with a breast-work, they form terraces frequented by the family in the cool of the evening. The floors are usually composed of indurated mud, marble, or other flagstones, or tiles joined by cement. Windows small, the place of glass being supplied by paper, mica, and thin shell. Very little iron is used. The better sort of residences are built within a court, surrounded by a wall, 12 or 14 ft. high, and the interior of those of the opulent Chinese are in general very richly furnished. The houses of the middle orders, in which about one-third part of the population reside, have no court, nor any superabundant room; those of the lower orders, which are very numerous along the banks of the canals, in the N. part of the old city, and in the extreme parts of the suburbs, are wretched mud hovels, in which six, eight, ten, or sometimes even double that number of individuals, are crowded into one low, dark, and dirty apartment. The foreign factories, or *hongs*, as the Chinese call them, are situated in the SW. suburb, where they extend from E. to W. for about 1½ furlong. They occupy a muddy flat, which has been gained from the Choo-kiang river, which they face, being separated from it by a quay about 100 yds. wide. This space, which is considered as belonging to the European merchants, is railed in, and forms a promenade, called *Respondentia Walk*. Near it is another small open space, about 50 or 60 yds. square, walled in, and laid out as a garden, with gravel walks and flower-beds. These narrow limits bound all the territory assigned to foreigners within the Celestial empire: even the quay and enclosure were not obtained without considerable difficulty, and the European merchants cannot erect a few steps on the water's edge without express permission from the authorities. There are thirteen *hongs*, or factories, including the British, Dutch, American, French, Austrian, Swedish, Danish, and Parsee establishments. They are amongst the handsomest buildings in the city, and usually consist of three, four, or more brick or granite buildings surrounding a kind of close or court: two tolerable European hotels occupy portions of two

of them. The English *hong* far surpasses the rest for elegance and extent; this, the Dutch, and the American *hongs* are the only ones which have their national flags flying; the British flag, which had been hauled down at the expiration of the E. I. Company's charter, was again raised in April, 1837. (Fanqui in China, i. 240.) Contiguous to the *hongs* are three noted thoroughfares, Old and New China Streets, and Hog Lane. The first two are amongst the best streets in the suburbs, rather wider than the generality of the public ways, pretty regularly paved, and lined with shops, in which a considerable amount of business is sometimes transacted. The filthy street, or alley, appropriately named Hog Lane, has an infamous notoriety as being the place where foreign seamen are intoxicated, robbed, and maltreated, and where, owing in a great measure to their imprudence, most of the disturbances have arisen which have led to serious disputes between the Chinese government and the foreign traders. Except in those devoted to the European trade, most of the shops open to the streets, and the most valuable kinds of wares are exposed, apparently without any protection from theft; but the sharp eye kept by the dealers, the gates at the end of the streets, which may be shut in an instant, and a most vigilant police, commonly prevent any frauds. Burglaries are rare, but loss by fire is frequent; to avert which, in the winter months, an additional body of watchmen occupy watch-towers erected on bamboo poles high above the roofs of the houses, and an alarm, given by bells or other means, quickly spreads through the city. The Chinese have very generally adopted the use of our engines, which they occasionally manufacture sufficiently well to answer the purpose; but the fatalism which prevails among the people makes them singularly careless as regards fire. In 1822 a fire broke out, which destroyed the British factory and above 10,000 other houses. The loss of the E. I. Company on this occasion was estimated at 500,000*l.* sterling. Canton is subject to inundations, which carry away many mud hovels, and frequently fill the lower apartments in the *hongs* to the height of several feet. The city is tolerably well supplied with water by several reservoirs, many wells, and canals, and some fine springs on its N. side, both within and without the walls.

A large part of the population of Canton resides on the water. For 4 or 5 m. opposite the city, and both above and below it, the river is crowded with vessels and rafts of all descriptions and sizes. Every one is registered, and the whole number in the neighbourhood of the city is reported to amount to 84,000. Many of these, called egg-boats, which are no more than 12 or 15 ft. long, about 6 ft. broad, and covered with a low bamboo shed, not only accommodate whole families, but contain coops in which large broods of ducks and chickens are reared. Others are immense rafts of timber on which many individuals live. Some of the floating-houses are, however, handsome residences; their hull is large and broad, and the building in the centre is surrounded by a spacious wooden terrace, and supports another on its roof, both of which are ornamented with flowers and evergreens. The narrow channel left between the stationary shipping and the shore is so incessantly thronged with barges and craft of all kinds, as to render landing or embarkation usually a difficult undertaking. Upwards of 120 different temples are enumerated in and adjacent to the city, and this does not include the whole number. The principal is the Buddhist temple on the island of Honan, in the river opposite Canton.

Its buildings are numerous, and chiefly of brick; it covers, with its courts and gardens, 6 or 8 acres, which are surrounded by a lofty wall. The stillness which reigns within this barrier forms a striking contrast to the turmoil which prevails without. The pathway to the great central temple leads through two wide court-yards laid out with gravel walks, and planted with rows of trees; in the gateway separating these courts are two fierce-looking colossal figures, seated on huge pedestals of granite. The principal hall is about 80 ft. sq.; its walls are hung with crimson tapestry and tablets, and its roof is ornamented with grotesque paintings and figures in relief; in the centre of the hall are three enormous, heavy, gilded figures representing the 'Past, Present, and Future,' before which incense is continually burning. In various other halls there are shrines of inferior deities, and the remainder of the building is occupied chiefly by the dwellings and offices of the priests, of whom there are nearly 200. There are two other considerable Buddhist temples in the NW. part of the old city, one of which, founded about A.D. 250, has about 200 inmates, and 3,500 acres of landed property. In the old city there is also a Mohammedan mosque, with a dome and minaret 160 ft. in height; there are about 3,000 Mohammedans in Canton. Without the walls, on the N. side, there is a lofty pagoda five stories high. There are several charitable institutions, but they are mostly of recent foundation. Vagabonds and beggars are very numerous in Canton, but not more so than in many large cities of Europe. A founding hospital established in 1698, with accommodations for 200 or 300 children, and supported with about 840*l.* a year; a retreat for the aged, infirm, and blind, supported by imposts on foreign ships bringing rice to the port, and a hospital for lepers, all on the E. side, without the city walls, are amongst the chief native charities. A general hospital in the SW. suburb, established by an American missionary society in 1835, has been productive of much benefit. But the best maintenance for the poor consists in the manner in which both law and custom enforce the claims of kindred. In the old city are the residences of the lieutenant-governor, Tartar-general, treasurer of the provincial revenue, literary chancellor, and criminal judge; and in the new city, those of the prov. governor, and the grand *hoppo* or commissioner of the customs on foreign trade. These residences, and others of the hong-merchants, and some wealthy citizens, are little inferior, except as respects size, to the imperial palaces. In the old city is the grand hall for the examination of candidates for literary honours. There are 14 high schools, and about 30 colleges, in Canton; three of the latter have each 200 students. It is estimated that about half the inhabitants are able to read.

There exists no information on which it would be safe to place any reliance as to the pop. of Canton. It is estimated in the Chinese Repository (vol. ii. 307) at 1,236,000; but the data on which this estimate is made are far too loose to entitle it to any weight. It is probable that the pop. of the city does not exceed half a million, or about 700,000 including the fluctuating crowds on the river.

The manufactures of Canton are numerous and important. It is said that there are about 17,000 persons employed in the weaving of silk, and that 50,000 are engaged in the manufacture of all kinds of cloth. There are said to be 4,200 shoemakers; besides great numbers of persons who work in wood, brass, iron, and stone. The book trade is considerable. The persons engaged in these trades are all formed into distinct communities, and have

each their own laws for the regulation of their business. But a large portion of the manufactures required for the consumption and trade of Canton are carried on at Fu-shan, a large city a few miles W. from Canton.

Trade.—A great part of the trade of China with European nations passes through Canton. The Russians are the only nation not having a resident or factory here: the commerce between the two empires, which is very extensive, centres at Kiachta, on the border of the empire, in Mongolia. The policy which determined this regulation, as well as that which fixed the only foreign mercantile port at almost the greatest possible distance from the capital, was probably dictated not only by a jealous fear of strangers passing the boundaries of the empire, but also from a desire on the part of the government, to obtain the greatest amount of transit duties. The European trade, now so immense, originated in a commercial treaty between Emmanuel, King of Portugal, and the Emperor of China, in 1517. In 1684, some British ships first touched at Canton. In 1680, the direct trade of the E. I. Company with China commenced. In consequence of the extraordinary increase in the demand for tea, which, from being a luxury seldom seen, so late as the reign of Queen Anne, even in the houses of the nobility, has become a necessary of life, used by the poorest classes, the British trade with Canton has progressively and rapidly increased since 1700; and the great mass of the foreign commerce is carried on by the English and Americans. Until the expiration of their charter, in 1834, the British trade was entirely in the hands of the E. I. Company; and during the last three or four years of their monopoly, that body imported tea (which has always been the principal export from China) into England to the amount of 31,500,000 lbs. annually. After the expiration of their charter, the quantity imported, was still greater. In 1834, 150 British vessels with a united tonnage of 82,470 tons, resorted to Whampoa, near Canton, and brought away 43,641,200 lbs. of tea. The export of that article subsequently diminished; but not to any great extent. In 1860, the export of tea from Canton amounted to 35,101,811 lbs.; in 1861, to 39,474,859 lbs.; in 1862, to 81,894,034 lbs.; and in 1863, to 24,477,411 lbs.

Besides tea, the chief article exported from Canton is silk. The exports of silk amounted to 1,142,984 lbs. in 1861; 1,618,010 in 1862; and 1,371,762 in 1863. In 1862, the exports also included 38,775 piculs of cotton; but in 1863 no cotton was exported.

The shipping of the port of Canton amounted to 783 vessels, of 238,456 tons, which entered in 1861; to 728 vessels, of 253,146 tons, in 1862; and to 867 vessels, of 800,520 tons, in 1863. The total value of the imports of Canton was 2,919,908*l.* in 1861; 2,412,515*l.* in 1862; and 2,281,354*l.* in 1863. The total value of the exports of Canton amounted to 3,557,590*l.* in 1860; 4,060,746*l.* in 1862; and 3,862,039 in 1863.

A fleet of 50 or 60 vessels, of about 400 tons burden, is annually despatched to Canton from the United States, the whole of the American trade being valued at about 10,000,000 dollars. About 15,000,000 lbs. of tea are annually imported into America. The Dutch usually send 10 or 15 vessels during the season; but many come from Batavia; and the import direct of tea from Canton into Holland is not more than 8,000,000 lbs. a year. From 2 to 3 or 4 French ships have appeared of late years at Whampoa. The trade of Spain, Sweden, Denmark, and Austria, with Canton, is very small.

The Choo-kiang, opposite Canton, is deep enough for vessels of 800 or 1,000 tons burden; but foreign ships only come up the river as far as Whampoa, about 15 m. below the city, loading and unloading by means of native boats. All the dealings of foreigners with the Chinese used to be carried on by the intervention of a few leading merchants, called *Hong* or security merchants, from their becoming security for the payment of the duties on ships, on the goods imported and exported, and for the peaceable behaviour of the crews. But this restriction is now abolished, and foreigners may here, as anywhere else, deal with any merchant or other party they think fit to employ. The *linguists* or government interpreters usually procure permits for delivering and taking in cargoes, and transact the custom-house business. The state-officers of the city, receiving little or no salary from government, but frequently purchasing their appointments, derive their profits chiefly by extortion; and Canton has the character of being not only the most licentious, but the most corruptly-governed city of the empire.

Canton is peculiarly the emporium of Chinese manufactures, and the shops are crowded with articles of the neatest and most minute workmanship. The markets devoted to eatables are less attractive to European tastes: puppies, cats, owls, horse-flesh, worms, slugs, and even snakes and other reptiles, are exhibited as tempting delicacies. All are sold by weight, and a cat and a pheasant frequently fetch the same price. The arts of *puffing* are not forgotten in Canton; in the suburbs, staring labels and boards are common enough over the shop doors, inviting the custom of the passengers, by means of laudatory mottoes, written in English and other languages; and many of the Chinese shopkeepers have acquired sufficient English, and the free and easy style so well adapted to captivate the British seamen, and make them part with their money. The streets are generally clean, but abound with cripples and miserable objects, beggars, and vagabonds of all descriptions. No wheeled carriages are seen in them; the only vehicles used are sedan chairs slung on poles, which some of the government functionaries and more opulent natives are privileged to use.

As soon as the season for business has terminated, an edict from the emperor comes to Canton, ordering the removal of the foreign merchants to Macao, where they remain for several months. During the summer, excursions are made by both Chinese and Europeans to Fahteen, a village about 2 m. higher up the river, above Canton, where there are some gardens laid out in the English style. The scenery in this direction is delightful. 'Beyond the city, and when clear of the buildings, and the crowds of boats which throng the passage, the river winds about in a beautifully serpentine manner. The country opens gradually, and displays both hill and dale covered with luxuriant vegetation. On every remarkable eminence, pagodas are erected, and joss-houses adorn the banks in every direction. In the midst of the stream, often dividing it into two or three separate channels, are romantic islands, either under the hand of the agriculturist, or covered with trees to the water's edge.' (Fanqui in China, iii. 203.) Canton, although extremely hot in summer, is much colder in winter than might be expected from its lat., and fires are often agreeable.

According to native historians, Canton was founded by one of the last sovereigns of the Chow dynasty, who reigned about 2,000 years ago. About the year 700, it became a regular mart for foreign trade, and the residence of an imperial commissioner of customs. The former city was utterly

destroyed in 1650 by the Tartar dynasty now on the throne, after a siege of eleven months, during and subsequent to which vast numbers of persons perished.

CAPACCIO, or CAPPACCIO NUOVO, a town of Southern Italy, prov. Salerno, cap. cant., 25 m. SE. Salerno, and 4 m. from the sea. Pop. 2,095 in 1862. It has two fine parish churches, and a convent. The cathedral is at Cappaccio Vecchio, a small place in the vicinity, destroyed in the 13th century by the emperor Frederic II. The inhabitants having fled to S. Pietro, gave it the name of Capaccio Nuovo.

CAPE BRETON, a large and most irregularly shaped island of British America, separated from the N. extremity of Nova Scotia. of which prov. it is a part, by a narrow, navigable channel. It forms the SE. boundary of the Gulf of St. Laurence, and lies between 45° 27' and 47° 4' N. lat., and 59° 45' and 61° 38' W. long. Area estimated at near 4,000 sq. m. The coast is, for the most part, rocky and elevated; and it is everywhere indented by deep gulfs and arms of the sea, by one of which, the Bras d'Or, it is very nearly separated into two great divisions. This inland sea has deep water throughout, and affords the greatest facilities to navigation. The island has many fine harbours; that of Sydney, the cap., on the E. coast, being one of the best in the prov. Louisbourg, so famous in the history of America in the reign of George II., lies on the SE. coast of the island. It was a strongly fortified settlement established by the French in 1720, and reckoned the key of their possessions in this part of the world; but having been taken by the English in 1745, was first dismantled, and afterwards entirely abandoned.

The climate of Cape Breton is subject to considerable extremes. The mean summer heat is said to be 80° Fahr., whilst in winter 20° below zero is not a very uncommon degree of cold. The temperature, however, is subject to more variation, and is less uniformly severe than the continent in the same parallel. The frost usually sets in about Dec., and between that and the end of April there are sometimes intervals of a week or two of mild weather. The spring is short, and vegetation very rapid: May is the sowing season, and the harvest is gathered in Aug. and Sept.: on the E. coast, the summers are usually dry; on the W. they are usually more moist.

This island terminates a low mountain range, which traverses the whole province of Nova Scotia (from SW. to NE.), and consists of granite, trap, and slate, in alternating strata; the slate being in narrow, and the trap in broad belts: beyond these, are grauwacke, sandstone, limestone, gypsum, and several other formations, which for the most part rest on an amygdaloid base. In this more recent portion are extensive beds of coal, said to resemble that of Newcastle, and well adapted for steam and other general purposes; it also yields an abundance of excellent gas. Cape Breton is supposed to contain a sufficiency of this, to supply the world for centuries. The mines at present in work are near Sidney: they were leased by the crown in 1827 for sixty years to the General Mining Association, on payment of 3,000*l.* sterling a year for 20,000 chaldrons, and 2*s.* currency for every chaldron beyond that quantity; which terms embrace the other mines of the prov., wrought by the same company, who have several steam-engines, and employ regularly about 500 men. Since the commencement of their operations, the demand has steadily increased, and is supposed likely to proceed in an increasing ratio, from the circumstance of the only available mines of the U. States, at present, being those of anthracite, in Pennsylv-

vania, to which, for general purposes, the Cape Breton coal is much superior. These mines were first opened about fifty years since, and have continued from that period to be wrought; but, previously to 1827, on a very imperfect system, and to a very limited extent. Iron and copper have also been met with, but neither has yet been attended to. Lime (gypsum), well adapted for agricultural purposes, is abundant, and at places perfectly accessible to shipping: there are also brine springs of great strength, which it is supposed may be in time made available, by means of the refuse coal, in the manufacture of salt for the fisheries: excellent freestone for building purposes is also met with.

The vegetable products resemble those of the neighbouring continent; the woods being composed of hemlock, black and white spruces, the white and red pines, oak, beech, birch, and maple: the timber trade has been gradually diminishing. The greater part of the shipments at present are from the W. basin, opening from the little Bras d'Or; on the Atlantic side, the spruce firs, &c. are mostly of stunted growth, but supply fuel to the different fishing settlements: these, however, are conducted with little energy, and to a much more limited extent than the great capabilities of the stations would seem to admit of. The fish most commonly taken are cod, halibut, haddock, mackerel, shad, smelts, and alewives; sturgeon and salmon are also caught in the streams, and these and the lakes abound with trout and perch. The inhabitants engaged in the fisheries are chiefly French Acadians, and Scotch, from the Western Islands. Those engaged in the timber trade and agriculture are chiefly Scotch and Irish emigrants, and a few are the descendants of U. S. loyalists. Those engaged in the coal-mines are mostly skilled labourers from Scotland. There are also about 300 Indians, for whom some tracts are reserved, on which they cultivate maize and potatoes: they are an inoffensive tribe, and support themselves chiefly by fishing; wandering along the shore in summer, and returning to a fixed winter station. The common kinds of grain, maize, and potatoes are cultivated; but the island does not produce sufficient for its own consumption. The exports consist of timber to the U. Kingdom, fish to the W. Indies, and coals to the U. States, and corn. The imports consist of British manufactured goods; corn and meal from the U. States, and colonial products. Between 300 and 400 vessels, varying from 20 to 200 tons, are registered in the island, and some shipbuilding is carried on, which is included in the provincial returns.

Sydney, which is the chief settlement, contains eighty or ninety houses, all with gardens attached, and regularly disposed, so that its appearance is very neat and respectable; the courts of justice for the island and the residences of the gov. officers are in this little town, which was founded in 1823. The rest are all small fishing settlements, on different parts of the sea coast, or round the borders of the Bras d'Or. Cape Breton is a co. of the province of Nova Scotia, and returns 2 m. to the H. of Assembly in Halifax. It is comprised within the diocese of the Bp. of Nova Scotia; but the great majority of the inhab. are Roman Catholics. Legal provision is made for the poor, and there are also other local assessments to defray co. charges. The French formed the first settlement on it, in 1712; a detachment of British troops, from New England, took possession of it in 1745, and from that period it has remained under British government.

CAPE CLEAR, a bold promontory, rising 400 ft. above the level of the sea, on the S. side of Clare Island, near the W. extremity of St. George's

Channel, and about 7 m. SE. from Baltimore, co. Cork, Ireland. Adjoining the cape is a lighthouse of the first class, with revolving lights, having the lantern elevated 455 ft. above the level of the sea. The lighthouse is in lat. $51^{\circ} 26' 3''$ N., long. $9^{\circ} 29' 20''$ W. This is the point from which ships leaving St. George's Channel for the W. usually take their departure, and those arriving prefer making it their landfall.

CAPE DE VERD ISLANDS (Port *Ilhas Verdes*), a group in the N. Atlantic Ocean, belonging to Portugal, between lat. $14^{\circ} 20'$ and $17^{\circ} 20'$ N., and long. $22^{\circ} 20'$ and $25^{\circ} 30'$ W., about 320 m. W. Cape de Verd, on the W. coast of Africa, which, as well as the islands, derives its name from the greenish tinge given to the adjoining sea by the abundance of sea-weed. The group consists of fourteen islands, of which seven are inhabited, besides islets and rocks, having a united area of about 1,790 sq. m., and a pop. of 85,393, according to the census of 1858. They are, in general, mountainous, rocky, and very ill supplied with water; are all evidently of volcanic origin; and in Fogo, the most elevated of the group, an active volcano still exists. The heat is extreme from November to July, and for the rest of the year storms and fogs are prevalent, and the climate is exceedingly unhealthy. Droughts are of frequent occurrence; and sometimes, as was the case previously to 1833, no rain falls for three or four years together. The soil, where not composed of volcanic matters, is chiefly calcareous or sandy, dry, stony, and in many parts barren. Vegetation is consequently partial; but, in various places, it is very vigorous, and rice, maize, bananas, oranges, melons, pomegranates, and other fruits, both of Europe and the tropics, grow abundantly. The first two products constitute the chief fruit of the inhabitants; but agriculture is neglected, and the wheat that is consumed is brought from America. This, however, is not so much a consequence of the poverty of the soil, or the indolence of the inhabitants, as of the rapacity and short-sightedness of the government. Oranges, lemons, melons, &c., come to great perfection, and the guavas, figs, sweet potatoes, and gourds are excellent. Vines and sugar-canes are cultivated to some extent; but the making of wine is prohibited. Indigo and cotton are indigenous. One of the principal products is orchilla weed, which here attains to great perfection; it is monopolised by the government, and is supposed to yield a revenue of about 50,000*l.* a year. Some parts are well wooded, chiefly with the tamarind tree, *Adansonia*, and palms. Goats, asses, and poultry, are the most numerous domestic animals; monkeys, wild cats, wood pigeons, and other birds, and turtles are plentiful. There is no dangerous animal; but clouds of locusts often do much damage to the crops. Chief manufactures those of leather and salt. Notwithstanding the severe droughts, the actual produce of these islands in cotton, indigo, fruits, salt, goat-skins, and turtle-oil, might give them a considerable value under a more intelligent government. The other chief articles of export are cotton, indigo, some cattle, ox hides, cotton cloths, and rum. St. Jago, the principal island and most southerly of the group, contains the town of Ribeira Grande, formerly the cap.; but during the dry season, the governor-general now usually resides at Port Playa, which has a good harbour, and is occasionally touched at by vessels bound for India. Porto Grande, in the island of St. Vincent, is however decidedly the best harbour in the group. Ships in it are completely sheltered from wind and sea. In St. Nicolo, the island second in importance, very good cotton stuffs, stockings, &c., are made. The pop. are a

mixed race of Portuguese and negroes; but all have an exceedingly dark colour.

These islands were first discovered in modern times, in 1450, by Antonio de Noli, a Genoese navigator, in the service of Prince Henry of Portugal, by which nation they were soon after taken possession of, and colonised.

CAPE HAYTIEN, a sea-port town of Hayti, originally called by the Spaniards Guarico, and afterwards by the French Cape François, or Le Cap, on the N. shore of the island, 90 m. N. Port-au-Prince; lat. $19^{\circ} 46' 20''$ N., long. $72^{\circ} 14' 14''$ W. Pop. probably from 12,000 to 16,000. This town, formerly the cap. of the island, was, previously to the revolution, 'remarkably beautiful, and must have been, during its glory, the most agreeable residence in the W. Archipelago.' Streets broad and well-paved; houses chiefly of stone, with handsome squares, large markets, and a copious supply of water. 'But now little more is to be seen than the traces of its former grandeur; even in the Place d'Armes, the handsomest square in it, some of the finest houses are unroofed, and plantain trees are growing in the middle of the ruins. The church, which was handsome, is in ruins, as are the theatre, government house, and Jesuit's college.' (Mackenzie.) It is built on the verge of a very extensive, well-watered, and fruitful plain; but being screened on the N. and W. by a mountain (Morne Cap), it is exposed to all the violence of the sun's rays, and is, in consequence, not very healthy. The harbour and road, to the E. and S. of the town, are protected on the N. by a projecting tongue of land. The entrance is rather difficult; but the anchorage is good, and the quays handsome. The defences towards the sea are respectable. The arsenal was constructed in the reign of Louis XV. Under the French, Cape Haytien was, as well as Port-au-Prince, occasionally the seat of government; and it continued to enjoy this distinction under Toussaint and Christophe. Its trade, though greatly fallen off, is still very considerable. It is principally carried on with the U. States. (Mackenzie's Notes on Hayti.)

CAPE HORN, a famous promontory of S. America, commonly regarded as the S. extremity of that continent. In point of fact, however, Cape Horn does not belong to the continent, but to a small island of the same name, the most S. of the Tierra del Fuego group, separated from the continent by the Straits of Magellan, or Magelhaens. Cape Horn is the most S. point of the island; and is high, black, precipitous, destitute of all vegetation, and having a most desolate appearance. According to Weddell, it is in lat. $55^{\circ} 59' 21''$ S., and long. $67^{\circ} 14' 14''$ W.; Malespina places it in lat. $55^{\circ} 58' 30''$ S., and $67^{\circ} 21' 15''$ W. The dangers attending the doubling of Cape Horn have, in consequence of the improvements in navigation, been very greatly diminished. The coast may be approached with comparatively little danger; the water being deep, and free from either rocks or shoals. Different opinions are entertained as to the proper season for passing the cape. Captain Hall prefers the summer (that is, the winter of the N. hemisphere) on account of the great length of the day, and the comparative fewness of icebergs and floating masses of ice, which are always dangerous. (Hall's S. America, ii. Append. 16.)

CAPE OF GOOD HOPE, a celebrated promontory near the SW. extremity of the African continent; lat. $32^{\circ} 23' 40''$ S., long. $18^{\circ} 52' 25''$ E. It was first seen by Europeans (in modern times) in 1486, Bartholomew de Diaz, a Portuguese commander, having been its discoverer. Diaz, however, merely saw it; the violence of the winds, the

shattered condition of his ships, and the turbulence of his crews, prevented him from doubling it; and these circumstances doubtless induced him to name it *Cabo Tormentoso*, or 'Stormy Cape;' but his sovereign, John II. of Portugal, believing it to be at or near that remote extremity of Africa which the Portuguese had been so long endeavouring to reach, designated it *Cabo di Buena Esperanza*, of which the name we give it is a translation. Vasco de Gama doubled it in 1497, after which it continued for more than a century and a half to be indiscriminately resorted to by European navigators. (For the rest of its history, see succeeding article.)

CAPE OF GOOD HOPE (COLONY OF), an extensive colony, or rather territory, so called from the above cape, belonging to Great Britain, in S. Africa, comprising the greater portion of the extremity of that continent S. of lat. $29^{\circ} 30'$, and between long. 17° and $27^{\circ} 30'$ E. It is bounded on the N. by the Gariep or Orange river; on the NE. by the territory of the Basutos; on the E. by Kaffirland, and the newly erected colony of British Kaffraria. Total area estimated at 183,286 sq. m. (Official tables.) The colony has a coast line of about 1,150 m., broken by numerous bays, the principal of which are St. Helena, Saldanha, and Table Bays on the W., and False Bay, St. Sebastian's, Mossel, Plettenburg, St. Francis, and Algoa Bays on the S. coast.

The whole country consists of three successive plateaux increasing in elevation according to their distance from the sea, and separated from each other by as many chains of mountains. The first great chain running E. and W., the Lange Kloof, or Long Pass, 'encloses between it and the S. coast an irregular belt of land from 20 to 60 m. in width, indented by several bays, covered with a deep and fertile soil, intersected by numerous streamlets, well clothed with grass and small arboreous or frutescent plants, well wooded in many parts with forest trees, supplied with frequent rains, and enjoying, on account of its proximity to the sea, a more mild and equable temperature, than the more remote and interior parts of the colony.' (Barrow.) The next great chain, the Groote Zwarte Bergen (Great Black Mountain), is considerably more rugged and lofty than the first, reaching sometimes to 4,000 ft. in height, and consisting in many places of double and even treble ranges. The belt of terrace enclosed between it and the first chain is about the mean width of that between the first and the sea. Its surface is very varied; it is composed in some parts of barren hills, in others of naked arid plains of clay, called *karroo*, and again in others of fertile and well-watered patches of land. The temperature is here less uniform than in the grounds skirting the sea. The third great mountain chain, the Nieuwveldt Gebirgje, between lat. 33° and 33° , is continuous towards the E. with the Schneeuwbergen (Snow Mountains), the highest range in S. Africa, the loftiest summit of which is estimated at not less than 10,000 ft. in height, and is covered with snow for nearly half the year. Between this and the second chain is the *Great Karroo*, an arid desert plain nearly 300 m. in length by from 80 to 100 m. in breadth. 'This is not a sandy plain, and bears no resemblance to the Sahara or Arabian deserts. It consists of a sort of table-land, or elevated basin, thinly covered with an argillaceous soil, largely impregnated with iron, upon a substratum of rock or gravel. Some large portions of it are perfectly level, but in others the surface is diversified by slaty hills and eminences, some of which would appear considerable save for the lofty mountains which bound the Karroo on all sides

except towards the E., where it extends into Camdeboo. Its medium height above the level of the sea is estimated at about 8,000 ft. It is crossed by many beds of rivers, or rather torrents, most of which run from N. to S., and find an exit for their waters to the coast through a few breaks in the S. chain of mountains. These rivers, however, are for the greater part of the year either entirely dried up, or furnish only a few scanty pools barely sufficient for the wild animals, zebras, quaggas, ostriches, &c., which frequent this inhospitable region. Not unfrequently even those brackish pools and fountains also fail, as was the case at the time of our journey; and then the Karroo becomes almost impassable by man, and a large portion of it uninhabitable even by the wild beasts.

In such a region, where rain is rare, and dews almost unknown, the vegetation must of necessity be at all times extremely scanty; and in summer, when the sun has dried the soil to the hardness of brick, it ceases almost entirely. Except along the courses of the temporary rivers, which for the most part are marked by a fringe of mimosas, not a tree nor a bush, nor a blade of grass, decks the wide expanse of the waste. Low stunted shrubs resembling heath; numerous species of fig marigolds, and ice-plants (*mesembryanthemum*), ghanabosch (*salicula*), gorteria, asters, &c.; some sorts of prickly euphorbia, and other succulent plants; and bulbs, whose roots nature has fortified with a tenfold net of fibres under the upper rind, to protect them during the long droughts, are alone able to subsist in the arid Karroo. During the dry season even these appear to be for the most part parched into a brown stubble, thinly scattered over the indurated or slaty soil; but in the early spring, when the ground becomes moistened with the fall of rain, these plants rush into vegetation with a rapidity that looks like enchantment; and in a few days millions of flowers of the most brilliant hues enamel the earth. It is chiefly at this season, when the whole dreary waste may be said to be transformed into a vast flower-garden, that the colonists of the Schneeuwberg, the Nieuwveldt, the Bokkeveldt, and the Roggeveldt, whose alpine farms are then chilled with keen frosts and the piercing mountain winds, descend into the Karroo to pasture their herds and flocks on the short-lived vegetation. (Pringle's Sketches, p. 297.)

From the W. coast the country ascends in a similar manner towards the interior by successive plateaux, separated by mountain chains, the loftiest of which, the Roggeveldt (Rye-field) Mountains, reach to upwards of 5,000 ft. above the level of the sea, and unite about long. 21° with the Nieuwveldt chain. To the N. of, all, and near the boundary line of the territory, there is a chain of mountains, the height of which is estimated at 9,000 ft. The whole tract of country to the N. is much more sandy, barren, and thinly inhabited, than that to the E., which seems to increase in beauty and fertility in proportion as it is distant from the Cape. The third great chain of mountains forms the water-shed, or division between the streams which flow N. into the country of the Bosjesmans, and those which have a S. or W. course through the colonial territory. On its N. side rise the Great Riet, Braak, and other affluents of the Orange River; on its S. side, the Great Doorn (Thorn), the Gamba or Great Lion, Camtoos, Sunday, Great Fish, and other rivers. The principal streams on the W. coast are the Great Berg (or Mountain) and Olifant or Elephant River. Both are navigable by small craft for about 20 m. inland, but the mouth of the former is choked up with a bed of sand, and that of the latter has a reef of rocks across it. The chief of

those which discharge themselves on the S. coast are the Breede or Broad River, the Gauritz, Camtoos, Sunday, and Great Fish Rivers. Nearly all of them, unfortunately, have bars or other obstructions at their mouths, rendering them in great part useless for navigation. The Broad River, however, may be navigated by small craft for about 30 m., and its mouth, which is called Port Beaufort, allows vessels of 200 tons to enter in safety. The Gauritz, formed by the union of several other streams, is in the rainy season a large and rapid river; but in the summer months has only a very weak current, while the bar at its mouth is then generally dry. The Camtoos has within its bar a wide basin deep enough to float a ship of the line, but the bar itself is fordable at full, and frequently dry at ebb, tide. Besides the above there are a number of smaller rivers; but, for the most part, they are either dried up during a part of the year, or run in such deep chasms as to be nearly unserviceable.

Considering the great extent of coast, good harbours are few. Saldanha Bay, 65 m. NNW. Cape Town, is by far the most commodious. Ships lie safely in Table Bay at Cape Town during the prevalence of the SE. monsoons from Sept. to May; but after this, when the NW. winds set in, they are obliged to resort to Simon's Bay, in False Bay. This harbour is protected on the W. by the peninsula of the Cape, and affords shelter all the year round; it is consequently much frequented by our ships of war, transports, and store ships in their voyages to and from the E. Indies, and is the station of the Cape squadron. Plettenburg's Bay is open to the SE.; but affords safe anchorage in eight or ten fathoms water, and desirable shelter, during strong NE. or NW. gales, to vessels intending to make Table Bay. Algoa Bay, the most E. but one, is exposed to the prevailing winds; but it contains good anchorage; Port Elizabeth, the principal port next to Cape Town is seated on it.

Climate.—Though in general temperate and healthy, the climate is neither steady, agreeable, nor suitable for agricultural purposes. In the SW. districts rains, in the cold season, are profuse; but in summer they are of rare occurrence, and during the greater part of that season the ground is parched up with drought. The deficiency and irregularity of the rains are, in fact, the great drawbacks on the colony. In some of the more northerly tracts bordering on the Great Karroo, there has occasionally been no rain for three years together; and even in the more favoured districts of Albany and Uitenhage, and generally throughout the greater part of the colony, the rain, when it does come, descends in torrents that swell the smallest streams to an extraordinary magnitude, and occasion great damage. Sometimes the SE. wind is really a species of simoom, and is not only excessively hot, but is loaded with impalpable sand, which it is all but impossible to shut out; but as the breeze continues, it gradually cools, and usually, in about twenty-four hours, becomes supportable. The mean temp. of the year, at the cap., is about 67½° Fahr., that of the coldest month being 57°, and of the hottest 79°. Cape Town is a customary place of resort for invalids from India, who certainly benefit by the change; though perhaps they have been led to visit it as much from its being within the limits of the E. I. Company's charter, which entitles servants of the Company resident there to full pay, as from its salubrity.

The beautiful white cloud frequently seen during the SE. monsoon resting on Table Mountain, and thence called the 'Table Cloth,' is occasioned by the condensation of the moisture in the air, cooled

by contact with the mountain. During the prevalence of this phenomenon, the cold air often rushes down the sides of the mountain with such impetuosity as to be fatal to shipping in the bay. Hail storms are occasionally very violent and destructive. Owing probably to its elevation, the cold of winter in the Great Karroo is much more severe than could have been anticipated from its latitude.

Geology, Minerals, &c.—The general geological character of the Cape is that of a region of sandstone resting upon a base of granite. In proportion as the latter rock is near the surface, as occurs on and round Table Mountain, springs are abundant; but wherever the granite lies at a considerable depth, as is the case throughout a great portion of the country, the contrary obtains. The territory generally suffers from a deficiency of water. Limestone is found in the E.; clays and sand of various kinds compose most of the surface of the plains; an alluvial loam and black peat mould are very abundant in some of the lands skirting the sea. Very pure and white alum; salt-petre and salt, with which the ground in some of the N. parts of Graaf Reinet and in the Great Karroo are impregnated, coal, iron, galena, argenteriferous lead, a little copper, cornelians, bloodstone, &c., are amongst the chief mineral products. Sulphurous, nitrous, and other mineral springs are not rare, and several natural salt-pans exist at a considerable distance from the coast. In Beaufort district fossil remains of the mammoth have been met with.

Vegetable Products.—The *Flora* of the Cape is very remarkable; its species are extremely numerous, varied, and elegant; but they want the aroma, whose sweetness fills the flower-gardens of Europe. Bulbous plants are particularly plentiful; and the tribes of *ixia*, *iris*, *antholiza*, *gladiolus*, *amaryllis*, and *geranium* are both abundant and beautiful; and some of the most magnificent plants that adorn our gardens and greenhouses are brought from this part of the world. Still, however, as Malte-Brun has judiciously remarked, 'the vegetation of the Cape Colony does not satisfy either the eye or the ideas of a European. Rocks and sands everywhere prevail. The fields are separated by deserts; the green turf, scattered and thin, nowhere presents a close sward; the forests, filled with pointed trees, have neither a delicious coolness nor a solemn darkness.' (Book 70.) The Cape olive tree and the *sophora* (a tree like the ash) furnish some wood for joinery; but, except on the E. frontier, in the district of George, and in some spots near False Bay, there is generally a great deficiency of timber and fire-wood. The only spontaneous vegetable product that is turned to much account is the aloe, which grows over a large surface in the district of Zwelendani, and for which the farmers sometimes get as much as 20*l.* a load at Cape Town.

Animals.—The elephant, rhinoceros, hippopotamus, lion, leopard, hyena, jackal, zebra, quagga, masked boar, antelopes of various kinds, monkeys, racoons, squirrels, &c., are natives of the Cape; but many of these have now become comparatively rare, at least within the old limits and accessible districts of the colony. The rhinoceros is nearly extirpated; the hippopotamus is found only in the Great Fish and Kei rivers; and the elephant and lion have retired from all the old settled districts. Leopards and hyenas are still, however, by no means uncommon, particularly in the eastern districts, and are exceedingly voracious and destructive. The Cape Buffalo (*Bos Caffer*) is a powerful and a formidable animal, which has not hitherto been tamed, and is probably untameable.

Antelopes of all kinds are exceedingly numerous; and it is said that as many as 5,000, 10,000, and even 40,000 springboks have sometimes been seen bounding along in a single herd! Eagles, vultures, and other large birds are met with. In the Great Karroo, and along the skirts of the N. deserts, the ostrich is abundant: it is occasionally seen in large flocks, and is eagerly hunted for the sake of its plumage, which meets with a ready and advantageous sale. It is very wary and difficult to come near. Small birds are numerous and beautiful, but deficient in song. Lizards and other species of amphibia are met with; and the serpent tribe is both numerous and dangerous. Some rivers are well stocked with fish; but in general this is not the case, a consequence probably of the greater number of the rivers being nearly dried up in the hot season. A particular variety of locust (*Gryllus devastator*, Lich.) occasionally commits dreadful ravages. They always come from the N., and are no doubt bred in the interminable deserts of the interior. Their inroads appear to be periodical. They are devoured by the Bushmen and Hottentots.

People.—The total population of the colony, according to the census of 1856, amounted to 267,096; of whom 102,156 whites. The increase of pop. is very rapid: the births, in the year 1856, were 11,217, and the deaths 3,821. The European inhabitants consist in part of the English authorities and English settlers; but the majority are of Dutch, German, or French origin, being the descendants of the original settlers. The blacks are Hottentots and Kaffers; the remaining portion of the pop. consists of Malays and Africans (the offspring of a black woman and a Dutch father). The Dutch, in the more civilised districts, are distinguished for sobriety, prudence, and economy, and by their hospitality and benevolence towards whites. Like other savage and uncivilised tribes, the Hottentots have suffered severely from the settlement of whites among them, by whom they have been despoiled of their lands; and those that were not exterminated or driven into the desert, were reduced to a state of substantial slavery. At length, however, the British government interposed in favour of all classes of natives; and by an order in council, dated the 15th of Jan. 1829, placed them on the same footing, in respect of civil rights, as the other free subjects of the colony. This wise and liberal measure made less immediate change than was anticipated in the condition of the natives. They can no longer, indeed, be flogged at the pleasure of their masters, nor their children forcibly taken from them, nor be sold along with the estates on which they lived; but in other respects their condition is nearly the same. They continue to be without consideration in society, and are now, as formerly, the servants of the colonists, who employ them partly as cultivators, but mostly as shepherds and herdsmen, occupations for which they are extremely well fitted.

The Kaffers on the E. border are both physically and mentally a far superior people to the Hottentots. They are tall, robust, and muscular. Their complexion varies from a dark bronze to a jet black. They practise agriculture to some extent, raising maize, millet, kidney beans, and water melons. But they are, notwithstanding, a pastoral rather than an agricultural people; have large herds of cattle, and are, in fact, semi-nomadic. They have the art of working iron, and manufacture a rude sort of earthenware. They practise polygamy and circumcision; and have some of the worst vices of savages, being treacherous, cruel, and vindictive. They appear to consider the cattle of their neighbours as a sort of *ferre*

where, which it is meritorious to attack and carry away. The greater number of the contests in which we have been engaged with them have originated in this thievish propensity, or in their attempts upon the cattle of the colonists. The eastern parts of the colony have suffered very severely from these contests; and it was only with difficulty, and by the employment of a strong military force, that some of their late irruptions were repelled. It is, we are afraid, in vain to expect that the conflicting interests of the colonists and the aborigines should ever be reconciled, or that European civilisation should ever take any firm root amongst the latter. Very little communication takes place between the negroes, Africans, and Malays, each race holding the others in contempt.

Agriculture.—But a small portion of the lands of the colony is as yet under cultivation. As may be expected, the pasture lands are the most numerous. The crop lands are principally situated in the districts of Worcester, Stellenbosch, and the Cape in the W., and in Albany in the E. Agriculture is in a backward state, though perhaps not so much so as is usually stated. The boers are industrious, sober, and parsimonious; but they are, at the same time, strongly attached to ancient habits and routine practices. Better implements have, however, been introduced, and various improvements effected of late years. Agriculture is injured by the Dutch law of succession, which, by dividing a man's property equally among his children, hinders the accumulation of capital in masses, and the formation of proper farming establishments. (Thompson's Travels, p. 324, 4to ed.) In some limited districts the soil is very fertile, and the crops and quality of the grain excellent; but the greater part of the arable land is but of indifferent quality, and the crops are very liable to be injured by droughts, hail-storms, and rust.

The farms occupied by graziers are often of very great extent, comprising from 3,000 to 10,000 acres and upwards: those in tillage are comparatively small. The boers are, for the most part, proprietors of the farms which they occupy, paying a quit rent to government as the original owner of the soil. Such a thing as land on rent, from one owner to another, is almost unknown. The transfer of land from one individual to another is effected with the utmost facility, and 'without the possibility of fraud.' Property seldom remains long in one family. Owing to the law of equal succession, farms are frequently sold on the death of the owner; sometimes the whole is purchased by one son, but it is frequently split into parts.

The vineyards are mostly in the vicinity of the Cape, where the vine-growers occupy freehold farms of about 120 acres each. The vine (*Vitis vinifera*) has been long introduced to the Cape, and has for a lengthened period been cultivated with more or less attention. The culture, however, made no great progress till 1813, when the duty on Cape wines imported into this country was reduced to a third part of the duty levied on the wines of Portugal and Spain. But, excepting Constantia, Cape wine, whether from the vines being planted in an unsuitable soil, or from a want of care in the preparation of the wine, or both, has an earthy taste, and is generally very inferior; and the consequence of this reduction of the duty has merely been to increase the quantity grown and imported, without in any degree improving its quality, and to make it be employed as a cheap and convenient menstruum for adulterating more expensive wines. It was, therefore, scarcely a loss to the colony when, in 1864, the wine duties were again

equalised, leaving the growers at the Cape to the fair laws of competition.

Constantia is produced on a farm of that name at the E. base of Table Mountain, 8 or 9 m. from Cape Town. Its soil consists of decomposed sandstone, and is consequently more analogous to the soils which produce fine wine in Europe than the richer clayey soils where the ordinary vineyards are planted. Greater care is also taken in the production of the wine, and in consequence of these, and probably other causes, it is very superior. It is luscious, sweet, has a strong flavour, and being produced in limited quantities only, fetches a pretty high price. It is probable, however, that Constantia, or a wine closely approaching to it, might be produced in other parts of the colony; were sufficient pains taken. (Henderson on Wines, p. 256.)

Potatoes yield two crops a year. The fruits of N. Europe, as cherries and apples, have somewhat degenerated, but figs, apricots, almonds, and oranges are as good as in France. Grapes are particularly good on the W. coast. Tobacco succeeds well except in clayey soils, or in situations exposed to the SE. winds; but its culture is, notwithstanding, confined within very narrow limits. Tea was introduced by the Dutch, and some was raised of a tolerably good quality; but, how favourable soever in other respects, labour is too dear in the Cape colony to allow of tea being made a profitable article of culture. Dried fruit and aloes are important articles of export. There are large herds of horses and cattle.

The climate is suitable for sheep, and great endeavours have been made to improve the breed by the introduction of merinos from England and Australia; and we are glad to have to state that these efforts have proved successful, and that the numbers of sheep and the export of wool have been largely increased. The native breed of sheep is very inferior; it is remarkable only for the size of the tail, which sometimes weighs 20 lbs.: its wool is good for nothing. Goats, which are very numerous, serve for the food of the Hottentot farm-servants; oxen are used for draught in large teams. Herds of all these animals wander during the day over large grazing farms of from 3,000 to 6,000 acres, and at night are shut up in *kraals*, or enclosures. Hogs attract only a small share of attention, but turkeys, geese, ducks, and other poultry, are reared in great numbers.

Trade and Commerce.—The fisheries are not without importance, but produce no more than is required for home consumption. Mining industry has made little progress; but slate, lime, and building stone are quarried. Almost every farmer in the interior makes his own candles and soap, the alkali necessary for the latter being furnished by the consumption of a kind of *salsola*, which grows plentifully on such parts of the waste tracts as are at all watered. The other manufactures are mostly confined to those of leather, hats, snuff, saddles, tiles, rope, and a few other articles of a necessary kind; a few wind, water, and saw-mills now exist in most of the districts, and in Cape Town there is a steam flour-mill. There are several breweries and spirit distilleries, which, as well as other manufacturing establishments, are most numerous in the W. part of the territory.

The cultivators of the interior send their surplus agricultural produce, wool, butter, soap, candles, ostrich feathers, and skins, to the principal towns at stated intervals, and take back in return European manufactures, tobacco, brandy, coffee, &c. The chief foreign imports of the colony consist of woollens, cottons, hardware, earthenware, fire-arms, furniture, paper, books, haberdashery, soap,

and portions of most other articles in use in the U. Kingdom, piece-goods; sugar, and teak timber from India; tea from China; and sugar from the Mauritius. The principal articles of export are—wool, wines, corn and flour to the Mauritius and Rio Janeiro, hides, skins, horns, salted provisions, horses, butter, ivory, whale oil, aloes, and argol. The hides, skins, and horns come chiefly from the E. province. The salt beef and other cured meats are very good, and are largely exported to the Mauritius. The export of wool, especially from the eastern districts, has, for some years past, been greatly on the increase, and it has now become the greatest and most profitable of the colonial staples. Subjoined is an account of the quantities and values of the principal articles of colonial produce exported from the Cape colony in the years 1862 and 1863.

Imports		1862	1863
PRINCIPAL ARTICLES.			
Apparel and Slops	£	188,740	117,753
Beer & Ale, Bottled	Gals. £	200,273	141,094
" " in Wood	Gals. £	36,085	25,230
Cabinet & Upholstery	£	256,850	181,655
Wares	£	21,549	15,382
Coals	Tons £	39,467	27,033
Coffee	Cwts. £	30,606	20,630
Cotton Manufactures	£	25,383	20,473
Haberdashery and Millinery	£	52,137	64,684
Hardware, Cutlery, & Ironmongery	£	145,087	170,280
Iron, Bar, Bolt, and Rod	Cwts. £	263,393	187,661
Leather Manufactured	£	262,297	191,280
Linen Manufactures	£	149,622	102,285
Ollmen's Stores	Cwts. £	41,880	38,600
Rice	£	17,435	16,506
Saddlery and Harness	£	93,139	71,791
Sugar, Raw	Cwts. £	18,652	9,937
Tea	Lbs. £	61,814	61,976
Tobacco, Manufactured	Cwts. £	97,301	124,678
Wood, Deals	Cub. ft. £	54,901	63,695
Woolen Manufactures	£	30,739	15,914
Total Value of principal & other Articles	£	2,789,638	2,275,833

Exports		1862	1863
PRINCIPAL ARTICLES.			
Copper Ore	Tons £	3,396	3,540
Feathers, Ostrich	Lbs. £	93,665	103,214
Hides, Ox and Cow	No. £	7,462	10,275
Ivory	Lbs. £	42,488	72,834
Skins:			
Goat	No. £	29,064	25,263
Sheep	No. £	17,622	17,367
Wine, Ordinary	Gals. £	113,379	63,226
Wool, Sheep's	Lbs. £	24,613	10,773
Total Value of principal & other Articles	£	470,673	510,171
	£	45,925	53,677
	£	827,894	873,397
	£	65,929	69,495
	£	225,097	319,148
	£	31,453	46,054
	£	25,209,004	31,148,176
	£	1,283,186	1,504,661
Total Value of principal & other Articles	£	1,971,026	2,224,446

The total tonnage of vessels which entered and cleared the ports of the colony amounted to

506,088 in 1861; to 642,698 in 1862; and to 501,858 in 1863. Of these, the tonnage of British vessels was 347,799 in 1861; 410,976 in 1862; and 354,919 in 1863.

The weights generally in use are those which were introduced by the Dutch. Some of these are as follows:—Pound { 16 oz. } = 91.5 lb. avoird.; { 32 loads } = 100 muid (4 schepels) = 8 imp. bushels nearly; leaguer = 126.6 imp. gallons; pipe = 91.6 do.; sum = 31½ do.; anker = 7.9 do.; flask = 0.4946 do.; 128½ ells = 100 English yards; 49 ¹/₁₆ morgen = 100 English acres.

The coin in circulation is exclusively British. The paper rix-dollar is worth 1s. 6d.

Public Revenue is derived from customs duties imposed in 1847 on goods imported and exported, stamps, licenses, auction and transfer duties, port dues, land store and rents, postage, assessed taxes, tithes, and duties on stock and produce, interest of money in the government banks, discounts, &c., tolls and ferries. The revenue amounted to 753,326*l.* in 1862, and to 757,603*l.* in 1863; the public expenditure was 644,812*l.* in 1862, and 682,866*l.* in 1863.

Government.—The government was formerly vested in a governor and a legislative council nominated by the crown. But a more liberal and responsible system of government having been demanded by the colony, the principles of a new constitution were embodied in a report by the Board of Trade, approved by her Majesty in council on the 30th January 1850. According to letters patent dated May 28, 1850, the legislative authority is vested in, 1st, a governor appointed by the crown; 2nd, in a house of assembly, of 46 members, elected for 5 years by persons whose property has been assessed for the expense of the public roads; and 3rd, in a legislative council of 15 members chosen for 10 years, and representing the country districts and towns of the colony. Each prov. is administered by a lieutenant-governor, and each district by a civil commissioner, subordinate to whom are the field cornets, magistrates superintending tracts of country 15 or 20 m. in circuit each, with jurisdiction in trifling disputes, and power to call out the burghers of their field cornetcy armed. These magistrates, unless on the Kaffer frontier, receive no salary, but are exempted from all direct taxes.

Justice is administered by a supreme court of judicature, presided over by a chief justice, with a salary of 2,500*l.*, and three puisne judges, whose salaries are 1,500*l.* a year, a high sheriff, and deputy sheriffs for each district, a court of vice-admiralty, and police, and matrimonial courts. Civil and criminal circuit courts are held. The laws in operation are a modification of the Dutch civil and criminal code, and 'Statutes of India,' supplied when found deficient by the *Corpus Juris Civilis*. Trial by jury in criminal cases has been established. The Dutch language, formerly used in courts of law, has been superseded by the English.

Religion and Education.—The Dutch and English Reformed Lutheran, Roman Catholic, and Presbyterian churches in the Cape are all entirely or in part supported by the government. There are numerous missionary schools; and Bell's, Lancastrian, and other free schools in each district. The sum expended by government, in the year 1862, for ecclesiastical purposes, amounted to 15,270*l.*, while for educational purposes the expenditure was 17,510*l.* A joint-stock institution, entitled the 'South African College,' with five professors, was established at Cape Town in 1829.

The Military Force in the colony numbers about 6,000 men, including from 600 to 600 natives. The troops are usually stationed at Cape Town and Graham's Town. They include a detachment of Royal Artillery, a party of the Royal Engineers, and a regiment of mounted riflemen, termed the Cape cavalry, the privates and non-commissioned officers of which are principally Hotentots. The naval force is under the command of a rear-admiral, with authority along the E. and W. coasts of Africa, and the Mauritius and St. Helena.

The possession of the colony is important from its being the key of the Indian Ocean, and forming a depot whence ships and troops may be despatched with facility and expedition to most parts in S. India, the E. Archipelago, and Australia. It is probable, too, that in time it may become, intrinsically, a valuable colony; though, from the limited extent of its fertile land, and the other disadvantages attending it, a rapid progress need not be looked for. The number of emigrants who left the U. Kingdom for the Cape of Good Hope, during the year 1864, amounted to 873, which was more than the average.

History.—In 1620, two English E. India commanders, by a proclamation dated from Saldanha Bay, took possession of the Cape in the name of Great Britain; but no settlement was subsequently established by the English, and in 1650, the Cape promontory was colonised by the Dutch, who afterwards made settlements in Saldanha Bay and elsewhere; and disregarding, like other colonising adventurers, the rights of the original inhabitants, gradually extending their encroachments, till their territory reached nearly to the boundaries of that of the British territory at present. In 1795, the English took possession of the Cape; but at the peace of Amiens, in 1800, restored it to its former masters. In 1806 it was again taken by the English, to whom it was finally ceded in 1815.

CAPE TOWN, a sea-port town of S. Africa, the cap. of a small distr. and of the above described British territory, on its SW. coast, S. shore of Table Bay, at the foot of Table Mountain, about 32 m. N. from the Cape of Good Hope; lat. 33° 55' 56" S., long. 18° 1' E. Pop. 26,420, in 1856, of whom about two-thirds were whites. It is regularly laid out, and contains several good squares; its streets, which are straight and wide, cross each other at right angles, many of them being watered by canals, and planted on either side with trees, in the Dutch fashion. Houses, mostly of brick or red granite, are flat-roofed, and chiefly white, with green windows; they are spacious and convenient, having an elevated terrace, here called a stock, in front, and small gardens behind, usually with a treillage, clothed with vines. Upon the shore, at the E. extremity of the town, is the castle, a pentagonal fortress of considerable strength, containing some public offices and barracks, and having outworks which command both the bay and the roads to the country. On the W. side of the town, Table Bay is defended by four batteries, placed round and on the hill called the Lion's Rump; on its E. side, the town is protected by fortified lines of defence.

The principal public buildings are the government house, with extensive gardens, the burgher senate house, barracks, commercial exchange, custom-house, town and distr. gaol, military depot, tax office, English, Dutch, Lutheran, and Presbyterian churches, R. Cath., Independent, Wesleyan, and missionary chapels, Somerset Hospital, and two others, the theatre, Freemasons' Lodge, and South African College. Cape Town

is the seat of the supreme court of justice for the colony, of the vice-admiralty court, and a court for the recovery of small debts. It has several joint stock associations for banking, insurance, and other purposes; a savings' bank, a public library, four public free schools, and many literary, scientific, religious, and benevolent associations. The town and distr. contain several water mills, tanneries, hat, candle, snuff, and soap factories, an iron foundry, breweries, distilleries, and sawing and steam mills. It is plentifully supplied with good water.

Table Bay is capable of containing any number of ships, and forms a safe and, on the whole, good harbour, except during the months of June, July, and August, when it is exposed to a heavy swell from the W. A wooden jetty projects for half a furlong into the bay from the E. end of the town, near the castle, alongside of which ships discharge or take in cargoes. Ships that only take in water or refreshments lie in the other anchorage. A lighthouse, furnished with double lights, stands on the shore, near the W. extremity of the bay, about 2 m. NW. the town. The greater part of the commerce of the colony centres at Cape Town, and the returns of trade given in the preceding article apply as well to the town as to the colony.

British residents in India frequently resort to the Cape for their health; and the town has generally the appearance of bustle and gaiety; balls and the theatre are the favourite amusements. The environs of the Cape are very picturesque, and between it and the mountains which surround it, many handsome private gardens have been laid out. The people of Cape Town, in common with those of the other parts of the colony, distinguished themselves in 1849, by their uncompromising and successful opposition to the ill-advised attempt of the government to send convicts to the colony.

Cape Town was founded by the Dutch in 1650, and remained subject to them until taken by the British in 1795. It was restored by the treaty of Amiens, but being again captured by the British in 1806, was finally ceded to us with the rest of the colony in 1815.

CAPO D'ISTRIA (an. *Ægida*), a sea-port town of Illyria, gov. Trieste, circ. Istria, on a small island in the Gulf of Trieste, connected with the main land by a causeway $\frac{1}{2}$ m. in length, 8 m. S. Trieste. Pop. 9,186 in 1857. The town is fortified and defended by a citadel, and contains a cathedral, with about 30 other churches, and several handsome buildings; but the streets are narrow, and have a gloomy appearance. It is the seat of a bishopric, and has some superior schools, and a prison. Its inhab. manufacture salt, leather, and soap, and trade besides in wine, oil, and fish. The town is ill supplied with water, and not remarkably healthy. Its harbour is large, but little frequented except by fishing boats. Capo d'Istria belonged, in the middle ages, alternately to the Venetians and the Genoese.

CAPPOQUIN, an inl. town of Ireland, co. Waterford, prov. Munster, on the Blackwater, 105 m. SW. by S. Dublin. Pop. in 1821, 1,826; in 1831, 2,289; and 1,774 in 1861. It will be seen from these figures that the pop. is declining. The town, which was a place of some celebrity in the wars of 1641, is finely situated on the N. bank of the river, over which it has a wooden bridge. The public buildings are, a church, a Roman Catholic chapel, and a school-house. Petty sessions are held every alternate week, and a party of the constabulary is stationed here. At Mount Melleray, near the town, is an abbey of Trappists, who removed thither from France. Fairs are held on

17th March, 31st May, 5th July, 20th September, and 29th October. The tide flows up the Black-water to this place; but the navigation to Lismore is chiefly by a canal four miles long.

CAPRI (an. *Caprea*), a small island belonging to Italy, on the S. side of the entrance to the Gulf of Naples, about 4 m. W. Cape Campanella (an. *Promontorium Minerva*). Pop. 3,200 in 1862. The island is about 10 m. in circ., and is mostly surrounded by lofty perpendicular cliffs. It principally consists of two great masses of rugged calcareous rocks; but though the largest portion of its surface be wild and impracticable, it is in parts very fertile; and these being cultivated with great assiduity yield the finest crops, with the choicest grapes, olives, and other fruits. But the most valuable product of Capri is its stock doves and quails, particularly the latter, which at certain seasons of the year are caught in vast numbers. Rows of nets are placed across every break in the woods, or chasm in the rocks, to intercept these birds in their annual flights; and the quantity taken is almost incredible.

Capri is famous in history from having been for about 10 years the retreat of Tiberius, who here abandoned himself to debaucheries, while his proscriptions filled Rome with blood. The tyrant was most probably led to select this spot for his favoured residence, as well from the difficulty of its access as from the mildness and salubrity of the climate, and the unrivalled magnificence of the prospects which it affords. He is said to have built no fewer than 12 villas in different parts of the island, some close by the sea, and others in more elevated situations. (Tacit. *Annal.*, iv. § 67.) After his death, these were destroyed by order of the senate; but the ruins of some of them still remain; and the sculptures found in these, and the medals that have been dug up, go far to establish the accuracy of what would otherwise appear to be the singularly exaggerated statements of Tacitus and Suetonius, as to the private life of the emperor.

There are two towns on the island, Anacapri, near its W. (see ANACAPRI), and Capri, the cap., on its SE. shore. The latter, situated on the acclivity of a ridge, has about 1,200 inhab., and a cathedral and some other churches.

CAPUA (an. *Capoa* or *Capua*), a city of Southern Italy, prov. Caserta, Terra di Lavoro, cap. cant., on the left bank of the Volturno, in a fine plain, 18 m. N. Naples, on the railway from Rome to Naples. Pop. 10,743 in 1862. The town was fortified by Vauban; has a strong citadel, and is reckoned one of the keys of the kingdom. It has 3 principal streets, 2 magnificent gates, 2 fine squares, and 3 public fountains. The principal public buildings are the cathedral, the cupola of which is supported by 18 antique columns, the church of the Annunciation, the palace of the governor, the Hôtel de Ville, the barracks, and the theatre. It is the seat of an archbishopric; has no fewer than 18 parish churches, several convents for both sexes, a royal college, a seminary, a military school, and 4 hospitals. A great fair is annually held on the 26th November.

The ancient Capua was situated about 2½ m. from the modern city, which has nothing in common with the former, except that it was partly built out of its ruins. The remains of its amphitheatre, said to have been capable of containing 100,000 spectators, and of some of its tombs attest its ancient splendour and magnificence. The considerable town of Santa Maria di Capua occupies part of the spacious enclosure of the old city. The amazing fertility of its territory, and the commercial spirit of its inhabitants, rendered Capua

one of the largest and richest cities of ancient Italy. Its citizens warmly espoused the side of Hannibal, and that great general took up his winter quarters here after the campaign of Cannæ. It has been said that this was a false step; that he ought to have marched direct from Cannæ to Rome; and that his soldiers, enfeebled by their residence in this luxurious city, henceforth lost their former superiority. But there seems to be little or no foundation for these statements. Hannibal, though victorious at Cannæ, was so far from being able to attack Rome, that he was repulsed in an attempt upon Naples; and the fact that he maintained himself, without assistance from home, for a dozen years in Italy after he had wintered in Capua, and defeated, during that period, several Roman armies, completely negatives the idea of his troops having been enervated. It was hardly, perhaps, necessary to say so much on such a point, the authority of Hannibal being of incomparably greater weight than that of those who have presumed to find fault with his proceedings. The old city was destroyed by the barbarians.

CARACAS, an inland city of Colombia, cap. of the repub. of Venezuela, prov. Caracas, in a mountain valley nearly 2,900 ft. above the level of the sea, 12 m. SSE. La Guayra; lat. 10° 80' N., long. 66° 55' W. Pop. estimated at 50,000. The city is finely situated, and in the enjoyment of a temperate and healthy though variable climate; but it is exposed to the attacks of earthquakes: it has the advantage of being nearly surrounded by the Guayra and several other rivulets, which supply many public and private fountains, and wash the streets. It is well and regularly built; the streets are sufficiently wide, paved, and cross each other at right angles; there are several squares, the principal of which, the Plaza Mayor, has the cathedral on the E., the university on the S., and the prison on the W. side; but is disfigured by ranges of low shops collected in its centre, where the fruit, vegetable, and fish markets are held. Most of the public buildings are of a religious character; the cathedral is spacious but heavily built, and it is probably to this circumstance that its preservation was owing during the great earthquake of 1812. Previously to that year there were 8 other churches, the handsomest of which, Alta Gracia, was built by people of colour; but this and the other churches, nine-tenths of the houses in the city, and between 9,000 and 10,000 inhab., were totally destroyed by the terrible catastrophe that then happened. There are 3 convents, 2 nunneries, and 3 hospitals; besides a theatre capable of holding perhaps 1,800 persons, the pit of which is not roofed. The houses in Caracas are at present inferior to what they were before the earthquake of 1812, at which period those of the upper classes were also very well furnished: they are now chiefly of sun-dried clay or mud, the roofs tiled, and the walls whitewashed. La Guayra, which is the port of Caracas, is the chief trading town in Colombia; but its merchants are for the most part the agents of others in Caracas, and all negotiations are conducted in the capital. This city was founded by Diego Loseda in 1567, and, under the Spanish government, was the seat of the captain-general of Venezuela.

CARAVACA, a town of Spain, prov. Murcia, 42 m. WNW. Murcia, and 54 m. NE. Granada, on a river, and at the foot of a mountain ridge, both of the same name. Pop. 6,840 in 1857. The town has four convents, three hospitals, and a Jesuits' college. The remains of the ancient castle of Santa Cruz are on a height commanding the town. In a mountain on the W. is the cavern of Barquilla and its beautiful stalactites. The

vicinity contains marbles of various colours, and produces grain, pulse, wine, oil, hemp, flax, *esparto* or Spanish rush, and pasture for sheep and goats.

CARCAJENTE, a town of Spain, prov. Valencia, 7 m. NNE. San Felipe. Pop. 8,850 in 1857. The town is in the centre of a large plain, planted with white mulberry trees, and intersected by canals. Its streets are spacious, and the comfortable appearance of the houses announces the prosperity of the place. Many Roman remains are found here. Its vicinity produces silk, wheat, maize, pulse, rice, abundance of oranges, pomegranates, and garden stuffs.

CARCASSONNE, a city of France, dép. Aude, of which it is the cap., on the Aude by which it is intersected; 84 m. W. Narbonne, on the railway from Toulouse to Narbonne. Pop. 20,015 in 1861. The town consists of two parts—the city, situated on a hill on the right bank of the river, and the new town, on a plain on its left bank, the communication between them being maintained by a bridge of ten arches. The city, which is very ancient, is surrounded by double walls, and has an old castle. The new town is well built; has broad streets intersecting each other at right angles, a square shaded by magnificent plane trees, and numerous fountains. There is a fine promenade along the canal. The fortifications by which the new town was formerly surrounded have been demolished to make room for gardens and boulevards. Principal public buildings—cathedral, with a fine spire, the church of St. Lazarus in the city, formerly the cathedral, the episcopal palace, the hotel of the prefecture, the hotel de ville, the barracks, and the theatre. The halles or covered markets are worth notice. It is the seat of a bishopric; has tribunals of primary jurisdiction and commerce, a departmental college, a primary normal school, a diocesan seminary with 116 pupils, a secondary ecclesiastical school, a royal society of agriculture, and a public library with 6,000 vols.: it has also a hospital and a work-house. Carcassonne has long been famous for its manufacture of fine woollen cloth, patronised by Colbert: this, however, has much fallen off, though, exclusive of minor articles, it still furnishes annually about 30,000 pieces of cloth, of which about 24,000 are sold in France, and 6,000 in the Levant. There are also fabrics of stockings, linens, and soap; with paper-works, distilleries, tanneries, and nail-works. Its commerce, which is very considerable, is greatly facilitated by the railway, as well as by the canal du Midi, a branch from which comes to the town, and serves it as a port.

Carcassonne is very ancient, having been of considerable importance in the days of Cæsar. It fell successively into the hands of the Visigoths and Saracens, and suffered much during the wars of the Albigenses. Its last count ceded it to France in 1247.

CARDIFF, or **CAERDIFF**, a parl. bor. and sea-port of S. Wales, cap. co. Glamorgan, on the E. bank of the Taafe, about $\frac{1}{2}$ m. above its embouchure in the estuary of the Severn, 25 m. W. Bristol, and 170 $\frac{1}{2}$ m. W. London by Great Western railway. Pop. 1870 in 1801; 10,077 in 1841; and 32,954 in 1861. The town consists of two principal streets, at right angles to each other; behind these there are several courts, alleys, and lanes of very inferior houses; and some new streets, mostly occupied by Irish labourers. The castle, on the N. side of the town, is of great antiquity; it is in excellent repair, and is partly occupied by its proprietor, the Marquis of Bute. Besides the church of St. John, which has a lofty

tower, there are places of worship for Baptists, Methodists, Independents, &c. There is here, also, a co. gaol, a guildhall, where the assizes are held, a theatre, a bridge over the Taafe, of five arches, and numerous schools and charities. Cardiff has become a place of very considerable trade, being, in fact, the port of Merthyr Tydvil, and of the principal mining district of S. Wales. The exports of iron amount to about 500,000 tons a year, and those of coal to nearly a million tons. In the year 1863, there cleared at the port 1,619 British vessels, of 404,221 tons, and 2,873 foreign vessels, of 657,580 tons. The products of Merthyr and Aberdare are brought to Cardiff by railway, and by the Glamorganshire canal, which unites with the sea about 1 m. below the town, and by the Taafe Vale railway. But as the canal was constructed about fifty years ago, its basin did not afford sufficient accommodation for the vastly increased traffic of the place. To obviate this inconvenience, the late Marquis of Bute constructed, at his own expense, a ship canal and docks a little below the town. These works are on the most magnificent scale. The inner basin occupies a space of not less than eighteen acres; and there is an outer basin occupying a space of about $\frac{1}{2}$ acre, for the accommodation of ships and steamers of large burden. These great works have done much to increase the trade and importance of Cardiff. And also the fortune of their proprietor. The limits of the parl. and municipal boundaries coincide, and comprise an extent of 1,191 acres. It is joined with the bors. of Cowbridge and Llantrissant, in sending one member to the H. of C. Previously to the Reform Act, the franchise was vested in the burgesses. Registered electors 2,195 in 1865. Markets, Wednesday and Saturday; fairs, June 29, Sept. 19, Nov. 30.

CARDIGAN, a marit. co. of S. Wales, stretching in the form of a crescent, along the SE. shore of Cardigan Bay, having N. the cos. of Merioneth and Montgomery; E., Radnor and Brecon; and S., Caermarthen and Pembroke. Area 432,000 acres; pop. 97,401 in 1861. Surface mountainous and hilly, interspersed, however, with several fine valleys, of which the principal are those of the Teify, or Teivy, Rheidiol, and Ystwith, so called from the rivers, the largest in the co., by which they are intersected. The soil along the shore of this co., particularly between Llan Rhystyd and Llan Non, is a light sandy loam, and is, perhaps, the finest turnip and barley soil in the empire; it is, in fact, in some places alleged to have produced, with little or no manure, an uninterrupted succession of good, or at least tolerable barley crops, for a period reaching beyond the memory of man. (Davies's S. Wales, i. 163.) But this continued succession of corn crops has unhappily been tried in places where the soil is less capable of supporting such abusive treatment; and, altogether, agriculture is here at a very low ebb, being quite as far behind, if not more so, than in Caermarthen, which see. Estates of all sizes, from the smallest patches, which in some districts are very numerous, up to several thousands a year. Farms similarly divided. Silver, lead, and copper have all been found in Cardiganshire; and at one time the silver mines were an object of great attention, and yielded a considerable produce; but for a lengthened period they have been wholly abandoned, and little or no attention is now paid to those of copper and lead. Slates are quarried in different parts of the co., and are largely exported from Cardigan and Aberystwith. Manufactures unimportant. Principal towns, Cardigan, Aberystwith, Tregaron, and Lampeter. At the

last mentioned place is a college, established in 1822, for the education of the Welsh clergymen. Cardiganshire contains five hunds. and sixty-five par., and had 15,724 inhab. houses in 1861. It returns one mem. to the H. of C. for the co., and one for the bors. of Cardigan, Aberystwith, Lampeter, and Adpar. Registered electors for the co., 3,180 in 1861. Amount assessed to property tax, 198,177*l.* in 1861; gross rental assessed to poor rate, 166,248*l.*

CARDIGAN, a sea-port and parl. bor. of S. Wales, cap. co. Cardigan, on the N. bank of the Teivy, 5 m. from its embouchure in St. George's Channel, 198 m. WNW. London. Pop. 3,543 in 1861. The principal street is spacious, but the others are narrow and irregular, and the town contains a large proportion of small, mean tenements. Recently, however, not only the number of houses has been a good deal increased, but their quality has also been materially improved. A stone bridge crosses the river, and connects the town with Bridgend, in Pembrokeshire; and there is another bridge across a deep inlet of the river on the W. side of the town. It has an ancient church, a free grammar-school for thirty boys, a national and another charity school (in which 180 children are educated), a handsome co. hall and a co. gaol. Two towers, the remains of its ancient castle, still exist on a commanding site above the river. Market, Saturday; annual fairs, Feb. 18th, April 8th, Sept. 6th, and Dec. 19th. The town has no manufacture of any consequence. A bar at the river's mouth is a great impediment to navigation, and makes the entrance to the harbour very dangerous in rough weather. In moderate weather, and at spring tides, vessels of from 300 to 400 tons may come up to the town; but the general trade is confined to vessels of from 15 to 100 tons. There belonged to the port, on the 1st of January, 1864, 118 sailing vessels under, and 69 sailing vessels above 50 tons. Total tonnage, 10,193. There were no steamers. Exports, slate, corn, and butter; imports, coal, culm, timber, and deals, limestone, and articles of general consumption.

Cardigan, conjointly with Aberystwith, Lampeter, and Adpar, returns 1 mem. to the H. of C. Previously to the Reform Act, the franchise (in Cardigan) was vested in the burgesses, who were created by being presented by a jury of burgesses at the court of the corporation. Registered electors 167 in 1862. The town is divided into 2 wards, and governed by a mayor, aldermen, and councillors.

CARDONA, a fortified town of Spain, Catalonia, in a rugged country on the Cardener, 55 m. NW. Barcelona. Pop. 3,060 in 1857. Near the town on the SW., is a mountain of solid rock-salt, which neither the erosion caused by the rains, nor the mining operations that have been continued for ages, seem to have power materially to diminish. (See CATALONIA.) Being exceedingly hard, the rock is first blasted with gunpowder, and afterwards dug out with pickaxes: it is then ground, and laid up in the government storehouses. Vases, crucifixes, and other articles are made out of it, which stand very well in the atmosphere of Spain, but soon liquefy in a moist climate.

CARENTAN, a town of France, dep. La Manche, cap. cant., on the Tante, near its embouchure, 15 m. NNW. St. Lo. Pop. 3,110 in 1861. The town is situated in the middle of a marsh, and is indifferently fortified, and unhealthy. Small vessels come up to the town, which has some manufactures of lace and cotton.

CARIACO, a marit. town of Venezuela, prov. Cumana, in a large plain near the head of the gulf of the same name, 38 m. ENE. Cumana; lat. 10°

30' N., long. 63° 40' W. Pop. estimated at 7,500. The town is small, and its climate is unhealthy; but it has some trade, and its vicinity is extensively cultivated with cotton.

CARIATI, a sea-port town of Southern Italy, prov. Cosenza, cap. cant., on a high promontory washed by the Ionian Sea, 18 m. SE. Rossano. Pop. 8,133 in 1862. Though the seat of a bishopric, it is a desolate, wretched-looking place, surrounded by dilapidated walls, and having a castle in ruins. It has suffered much from the attacks of the Turks and Algerines, and more recently from the depredations of brigands, who, in 1806, and again in 1864-5, made the cause of legitimacy subservient to their own predatory purposes. It is now, however, beginning to improve. The best manna of Calabria is found in its environs, and the rivers furnish fish in abundance.

CARIGNANO, an inl. town of N. Italy, prov. Turin, cap. distr., on the left bank of the Po, which is here crossed by a wooden bridge, 11 m. S. Turin. Pop. 7,912 in 1862. The town is surrounded by old walls, has a handsome square, a fine church, several convents, two hospitals, and a college, and some remains of its ancient castle. A good deal of silk is produced in the neighbourhood, and there are several filatures in the town. Carignano is also celebrated for its confectionery. It has been several times taken; the French sacked it in 1644.

CARINI, a town of Sicily, prov. Palermo, cap. cant., on the rivulet of the same name, near where it falls into the sea, 12 m. WNW. Palermo. Pop. 10,827 in 1862. The town stands on a rising ground in a beautiful situation; is a respectable and clean town; and has a Gothic castle, with several churches, convents, and public buildings. Near Carini are the ruins of the ancient *Hyccara*, a small but rich city, sacked by Nicias, who, on that occasion, captured Lais, the famous courtesan.

CARINTHIA and CARNIOLA (Germ. *Kärnten* and *Krain*) DUCHIES or, two contiguous inland provinces of the Austrian empire; the former being included in the ancient *Noricum*, and the latter in *Illyricum*: they now respectively form the northern and central portions of the kingdom of Illyria as established in 1815, chiefly between lat. 45° 30' and 47° 10' N., and long. 12° 40' and 15° 40' E.; having N. Salzburg and Styria, E. Styria, S. Croatia and Istria, and W. a part of the government of Trieste, the Lombardo-Venetian kingdom, and the Tyrol. Area, 6,980 sq. m. (326·69 Germ.). Pop. of Carinthia 332,456, and of Carniola 451,941 in 1857. The pop. is more dense in the latter than in the former province; there being 1,844 inhabitants to the Germ. sq. m. in Carinthia, and 2,604 in Carniola. These provs. compose that part of Illyria forming the government of Laybach, and are divided into 5 circles, viz. Carinthia into Klagenfurt and Villach, or Lower and Upper Carinthia; and Carniola into those of Laybach, Adelsberg, and Neustadt. The whole country is mountainous: the great Alpine chain which passes from the Tyrol through Styria into Hungary, bounds Carinthia on the N., and its southern parallel chain, with its second ramification, or the Julian and Carnic Alps, run through the W. and S. parts of Carniola, and on its N. separate it from Carinthia. The great Alpine chain consists in its whole extent of granite, gneiss, quartz, mica, and clay-slate, and other primary rocks, and contains many metallic ores; the Carnic and Julian Alps have chiefly a calcareous formation, and the latter abound with ravines, caverns, and grottos. They are comparatively poor in metallic products. There are fertile valleys between the mountain

ranges; but the country generally is sterile and bare, and does not yield corn enough for the consumption of its inhabitants, the deficiency being made up by imports from Hungary. Carinthia is more abundantly watered than Carniola: the Drave intersects the former prov. in its whole length; the Save rises in the latter, and runs with a S.E. course through its N. and E. divisions: both greatly assist the traffic of these provinces. There are several moderate-sized lakes, as the Worthsee, Ossiacher-see, Muhlstädter-see, in the central part of Carinthia, and the Czirknitzer-see and others in the W. and NW. parts of Carniola, besides many small ones. The temperature depends chiefly upon the elevation; but, except in S. Carniola, the climate is generally cold, and unfavourable to agriculture. The surface of the conjoined provs. is thus divided:—Arable land, 678,993 Eng. acres; vineyards, 23,909 do.; meadows and gardens, 792,015 do.; commons, 1,085,089 do.; forests, 2,174,177 do.: total, 4,755,285 do.

The respective quantities of the chief agricultural products are stated to be—Wheat, 88,184 Eng. quarters; rye, 187,261 do.; barley, 126,862 do.; oats, 351,674 do.; wine, 8,350,601 Eng. imp. gall.

Wheat, barley, and wine are principally produced in Carniola; rye and oats in Carinthia. Buckwheat, millet, hemp, and flax, are also grown, and the flax of Carniola is said to be the best in the empire. The extent of surface devoted to gardens and vineyards in Carinthia is very inferior to that so appropriated in Carniola, in the S. of which duchy the finest apricots, peaches, apples, pears, and plums are produced, besides a considerable quantity of good wine. On the other hand, in Carinthia, the pasture lands are extensive, and cattle are reared in much larger numbers than in Carniola. The horses, which are large and strong, are bred mostly in the valley of the Gail, and elsewhere in Upper Carinthia. The sheep yield only inferior wool. Hogs and goats are plentiful. The Alps are inhabited by bears, which make great havoc amongst smaller animals. Chamois, deer, hares, and foxes are, however, found, as well as a great variety of feathered game. The rivers and lakes, and especially the Drave and the Ossiacher-see, abound with salmon, trout, and other superior fish. Bees are numerous, especially in S. Carniola; of late years the rearing of silk-worms has increased. The principal wealth of Carinthia is in the produce of its mines. Iron is found throughout the whole extent of the primary Alpine chain, and is also procured in the Carnic Alps. Copper is mined in several places, but although the quantity of ore be inexhaustible, the hardness of the stone in which it is found and other difficulties oppose serious obstacles to the attainment of any great supply of metal. The lead mine of the ore-mountain near Villach is the largest and most productive of that metal in the empire: it yields annually 33,000 centner of pure metal: other mines in the duchy afford yearly about 20,000 centner. Zinc, silver, and quicksilver are likewise met with, and near Hüttenberg antimony is found in conjunction with iron. There are some iron and lead mines in Carniola, but those of the greatest importance in that prov. are the celebrated quicksilver mines of Idria, the richest in Europe. Coal, peat, marble, building stone, various clays, talc, asbestos, jasper, beryl, opal, emerald, garnets, are found in various parts of the country. The following shows the average annual produce of some of the mines in both provinces:—Bar iron, 271,925 cwt.; cast iron, 9,942 cwt.; lead and lead ore, 60,893 cwt.; copper, 78 cwt.; coals, 49,614 cwt.

Manufacturing industry in Carinthia is mostly confined to working up its raw produce, and espe-

cially its metallic ores. There are a great number of furnaces and forges, iron-plate and steel-works. Besides these, there are a few woollen, silk, and cotton factories, situated chiefly at Klagenfurt, the capital of the province. In Carniola the manufactures are more important, although still inferior in amount to those in many other Austrian provinces. Most of the rural male population follow linen weaving, in addition to their agricultural occupations; while their wives spin thread. Both these articles are generally coarse; but there are some fine linen and lace manufactures, and many of woollen cloth, flannel, worsted stockings, and leather. Iron manufactures, and others of wooden articles, also occupy many hands; and in Laybach, the capital of Carniola, there is a very extensive porcelain and earthenware factory. The principal exports from Carniola are steel wares, timber, and wooden articles, glass wares, linens, felt hats, wax, wine, to Carinthia; flour to Trieste; and quicksilver to Lower Austria. Its imports are Hungarian and Italian wines, salt, oil, fruit, colonial produce, with coffee, sugar, various manufactured fabrics, tobacco, and a large supply of horned cattle. The exports of home produce are not probably much below the value of its imports; but considerable wealth is derived to the prov. from the traffic through it, and conveyance of goods from Austria, Carinthia, Croatia, to Trieste, and the other ports on the Adriatic. The town of Gottscheer, where a German colony is situated, has a remarkable commercial activity, and its goods are widely diffused over Hungary and the NW. provinces of the empire, as well as in many other parts of Europe: Laybach, the cap., is the other chief place of trade. The exports of Carinthia are almost confined to its raw and manufactured mineral products, and cattle. Klagenfurt, the cap., and Villach, are its principal commercial towns. The inhab. of these provs. are mostly of the Slavonian race, denominated Wendes or Vandals; in Carinthia, however, those of German are to those of Slavonian stock as 172 to 95. The Drave formerly separated the two races. Carinthia and Carniola have each their own provincial diet, formed in the same manner as that of the other provinces of the empire. (See AUSTRIA.) The high criminal and other judicial courts of Carinthia are at Klagenfurt. The Lutheran religion made considerable progress in this prov. in the 16th century, until checked by the government: there are now scarcely 20,000 Protestants, mostly in Upper Carinthia. The whole pop. of Carniola is Roman Catholic—a robust, contented, and frugal people. The Carinthians have, to a great extent, the character and disposition of Italians. They are said to be more inclined to indolence than their southern neighbours, and are often ignorant and superstitious. Both provs. formed parts of the empire of Charlemagne, and afterwards belonged to the dukes of Friuli. After passing through various hands, the house of Austria became possessed of Carniola in 1245, and of Carinthia in 1821. In 1809 these countries were annexed to the empire of Napoleon, and remained connected with it till 1814, when they were restored to Austria.

CARIPE, a town and valley in Venezuela, prov. Cumana, 40 m. S.E. that city. The town is the chief seat of the Chayma Indian missions. The valley is celebrated for a remarkable cavern in a limestone formation, at least 2,800 ft. in depth, and for some distance 60 or 70 ft. high. It is inhabited by multitudes of birds, called guacharos, a species of *Caprimulgus*, the young of which are annually destroyed in great numbers by the Indians, for the sake of the fat with which the lining

membrane of their abdomen is laden, and of which excellent oil is made. Humboldt visited this cavern. (See his *Personal Narrative*, vol. ii.)

CARISBROOKE, a par. and village of England, Isle of Wight, liberty W. Medina, situated by a rivulet, at the base of a conical hill, surmounted by its castle or fortress, 78 m. SW. London. Area of par. 8,800 acres: pop. of do. 7,502 in 1861. Some portions of the fortress are very old; but it was repaired and greatly augmented in the reign of Elizabeth. The walls of the old fortress (a parallelogram enclosing an area of $1\frac{1}{4}$ acre, with its keep in the centre) are comprised within the more modern fortifications, which enclose an area of about twenty acres. The latter have five bastions and a deep moat, and are connected with a fine terrace, nearly 1 m. in length. The par. church stands on an acclivity opposite the castle: it is a Norman structure, originally attached to a Cistercian monastery, founded in the reign of the Conqueror; some remains of which exist at a farmhouse on its site. The most celebrated event in the annals of Carisbrooke Castle is the confinement of Charles I. for thirteen months within its walls, immediately previous to his being delivered up to the parliamentary forces. Subsequently, his children were also imprisoned in this castle; and his eldest daughter died in it, at the age of fifteen. It continues to be the residence and head-quarters of the governor of the Isle of Wight; and a considerable body of troops are usually stationed in it. There are many pleasant villas scattered over the parish; within which, also, is the general work-house of the island.

CARLEE, a small village of Hindostan, prov. Aurrangabad, 84 m. NW. Poonah, near which are some remarkable cave-temples, excavated in a spur from a chain of hills running E. and W.; the chief cavern is said to be 6,000 ft. above the level of the sea, and faces due W. A little to the left, before the entrance, stands a large pillar, surmounted by three sculptured lions back to back. The temple is entered under a noble horse-shoe arch, through a small square doorway in a kind of portico screen, which in great part fills up the arch, and abounds with laboured workmanship. To one third of its height, it is covered with various figures in bas-relief; and one of these in a dancing attitude is exceedingly graceful: the ends of this screen are occupied to the same height with the figures of gigantic elephants, projecting in alto-relievo, and well carved. After entering the cave, which is 40 paces long by 14 broad, Mrs. Graham observes, 'when we looked round, we almost fancied ourselves in a Gothic cathedral.' Unlike the Buddhic cave-temples of Bang, Ellora, &c., the roof is arched, rising to an astonishing height, supported by twenty-one pillars along each side, and above these by ribs of teak, which are fitted by teeth into corresponding holes in the rock above. The pillars are mostly hexagonal, each with a bell-shaped capital, surmounted by two elephants with their trunks entwined, and each carrying one female, and two male, figures. On several of the columns there are inscriptions, which have recently been translated (see *Journal of the Asiat. Soc. of Bengal*, vol. iii.), and from one of them it would appear that this temple was constructed A.D. 176. The cave is semicircular at its termination: opposite the entrance is a structure with a dome, on which is fixed a huge teak umbrella, an ornament common in the temples of Buddha; but no separate cells, opening from the main temple, have been noticed, though such have been supposed characteristic of Buddhic structures. (Graham, *Journal of a Resid. in India*, pp. 63-65.)

CARLENTINI, a town of Sicily, prov. Syracuse,

19 m. NW. Syracuse. Pop. 4,954 in 1862. The town was built by Charles V. for the head-quarters of the Sicilian army; but the design was never completed, and since the earthquake of 1693, by which it was partially destroyed, it has become a miserable place.

CARLINGFORD, a sea-port town of Ireland, co. Louth, on the S. side of Carlingford lough, 10 m. E. Dundalk. Pop. of town 777, and of parish 7,039 in 1861. Carlingford lough is 8 m. in depth, by from 1 to $1\frac{1}{4}$ m. wide, with deep water and secure anchorage, but being situated between lofty mountains, is liable to sudden squalls. The bar at the entrance has 8 ft. water at low-water springs, 17 ft. at ordinary high water, and 26 ft. at springs. This bay is well stocked with excellent oysters, the fishing of which employs most part of the pop. of Carlingford. The town returned 2 mems. to the Irish parliament, but was disfranchised at the Union.

CARLISLE, a city of England, co. Cumberland, on a gentle eminence, in an extensive plain at the confluence of the Eden, Caldew, and Peteril, which nearly surround it; 250 m. NNW. London by road, and 800 $\frac{1}{4}$ m. by London and North-Western railway. The pop. of the city was 10,221 in 1801; 23,012 in 1841; and 29,417 in 1861. The great increase of pop. is attributed to the increase of manufactures, and the influx of Irishmen and Scotchmen to the mills and railroads.

The Eden is crossed by an elegant bridge, finished in 1817, consisting of five large and five smaller arches; the Caldew has two bridges, and the smaller stream of the Peteril one. The principal streets diverge from the market-place, an irregular area in the middle of the town: though not regularly arranged, several of them are well built, and they are generally well paved and lighted, and plentifully supplied with water.

Carlisle is the seat of a bishopric, founded by Henry I., and remodelled by Henry VIII. after the dissolution of the monasteries, with whose lands he largely endowed it. The ecclesiastical jurisdiction extends over 93 par., containing the whole of Westmoreland and great part of Cumberland. The revenues of the see amount at an average to 4,500*l.* per annum. The cathedral, having been repaired at different periods, exhibits various kinds of architecture; the E. window is said to be the finest specimen of the kind in England. The dignitaries, besides the bishop, are a dean, 4 prebendaries, and 8 minor canons. The nave of the cathedral forms the parochial church of St. Mary: that of St. Cuthbert is a plain building, erected in 1778. There are three other churches, and places of worship for Presbyterians, Independents, two denominations of Methodists, Baptists, R. Catholics, and the Society of Friends. The grammar-school was founded by Henry VIII. There are also Lancastrian and national schools, St. Patrick's school for educating 400 children of all denominations, and a school of industry for females. The county infirmary is in the town, and it has a fever hospital and a dispensary. An academy for the encouragement of the fine arts was formed in 1822, a mechanics' institute in 1824, and a literary and philosophical institution in 1835: a handsome building, erected in 1839, for the accommodation of these societies, contains a museum and a theatre for lectures. There are two subscription libraries and news-rooms—one of the latter, a chaste new building, opened in 1831—and several weekly newspapers. The environs afford many delightful rides and walks. Races take place in autumn at the Swifts, a fine course on the S. bank of the Eden. The ancient castle, which stands on an eminence over the river, consists of an outward

and inner wall, each of great thickness, and of a great square tower, constructed according to the ancient mode of defence. The ramparts command a very fine view. It is now used only as an infantry barrack and armoury.

Carlisle is a corporation by prescription; and obtained confirmations and extensions of its privileges by a series of 18 charters, terminating with 13 Charles I., which was the governing charter. Under the new municipal act, the government is vested in a mayor, 10 aldermen, and 30 common-councilmen, chosen annually by the rate-payers. There are eight guilds or fraternities of trades, admission into any of which is by birth or apprenticeship only; and admission into one of the guilds is a preliminary requisite to the freedom of the city. Carlisle has sent 2 mem. to the H. of C. since the reign of Edward I.: the right of election, previously to the Reform Act, being in resident and non-resident freemen. The boundaries of the parli. bor. were extended by the Boundary Act, so as to embrace, not merely the city, but also the suburbs and a considerable contiguous circle. Registered electors 1,418 in 1865, of whom 331 freemen. The election of members for the E. division of the co. is also held here.

The court of the mayor and bailiffs sits weekly, and holds personal pleas to any amount. Petty sessions are held on Wednesdays and Saturdays. A county court is also established here. There is no city gaol, prisoners being confined in the county gaol, an extensive and well-constructed building at the S. entrance to the city, or in the house of correction: a subterranean passage, through which the prisoners are brought to trial, connects both these places of confinement with the county court-house. The county assizes, and the quarter sessions, at Easter and Midsummer, are held in this building, which was erected in 1810 on the site of the ancient citadel: it has two magnificent towers. The revenues of the corporation amounting in 1861 to 3,369*l.*—exclusive of the profits of the gas works, which belong to the corporation—arise from tolls, rents, and shares in public companies.

The buildings for corporate and other public purposes connected with the government of the place, are the town-hall, guildhall, and council-chamber. Cotton is the staple manufacture of the town, employing about 2,000 hands. The hatting trade is also extensive; and there are several dye-works, print-works, iron-foundries, tan-yards, and breweries. Coal for manufacturing and domestic purposes is brought from Gilsland, 12 m. distant; and from other collieries, about 20 m. distant. A considerable part of the manufacturing pop. of Carlisle used to be in a very depressed condition; but, on the whole, the city is thriving, and its general aspect is good. Its situation, on the great N. W. line of railway from London and Manchester to Glasgow and Edinburgh, gives great facilities to its trade, which is still further promoted by the railways connecting it with Newcastle, on the one hand, and with Maryport and Whitehaven, on the other. The navigation of the Eden being greatly impeded by shoals, a canal, suitable for vessels of 100 tons' burden, has been cut to Bowness, on the Solway Frith, 1 m. distant. The trade with Liverpool and Ireland is carried on by steamers. It has been made a sea-port and there belonged to it, on the 1st of January, 1864, 12 sailing vessels of under, and 14 vessels of above 20 tons. Total tonnage 2,264. Gross customs' revenue 82,164*l.* in 1862, and 28,803*l.* in 1863.

The rate of mortality in the city of Carlisle has been supposed to correspond pretty closely with the average rate of mortality in England and Wales; and Mr. Milne, proceeding on this hypo-

thesis, constructed a table of mortality from observations made by Dr. Heysham in this city. This table has been adopted by various insurance offices. It gives a decidedly lower rate of mortality than the Northampton table, which, previously to its appearance, was the only one in use.

Markets on Wednesdays and Saturdays; fairs on the Saturdays before Whitsuntide and Martinmas; also a statute-fair on 26th Aug. and 14 days after, during the continuance of which no attachment from the city civil courts can be executed; and another on 19th Sept. The banks are, the Carlisle City and District Bank, the Carlisle and Cumberland Banking Co., a branch of the Cumberland Union Banking Co., the House of Monkhouse, Head, and Co., and a savings' bank. The village of Stanwix, N. of the Eden, may be considered as a suburb of Carlisle, though not included within its corporate or parliamentary limits. Its ancient church, dedicated to St. Michael, is built on the site and out of the ruins of the Roman station of Congavata, which stood along the rampart of the wall of Severus.

Carlisle was a Roman station, under the name of Luguwallum, as is attested by vestiges of the Roman wall, and by many Roman relics discovered here at various times. The Saxons called it *Caer Luil*, whence its present name is derived. William the Conqueror built the castle; and during the wars between England and Scotland, Carlisle was a frequent object of attack. It surrendered, without making any opposition, to the Pretender Charles Edward, in 1745; but, on his being compelled to evacuate it on the approach of the British forces, he left behind him a small garrison, which surrendered at discretion: the officers of this garrison were subsequently executed at London as traitors, and their heads exposed on the gates and walls of Carlisle.

CARLOFORTE, a sea-port town of Northern Italy, on the small island of San Pietro, near the SW. coast of Sardinia; lat. 39° 8' 28" N., long. 8° 17' 28" E. Pop. 8,405 in 1862. The town is surrounded by a wall, and has some fortifications. It is moderately healthy. The inhabitants are engaged in the anchovy and coral fisheries, and in the manufacture of salt.

CARLOTA, LA, a town of Spain, prov. Cordova, cap. dep. of its own name, 17 m. SW. Cordova. Pop. 2,350 in 1857. The town is one of the chief seats of the foreign colonists—the majority of them Germans—planted in Andalusia, in 1768, in the view of peopling and fertilising the Sierra Morena. It is a pretty town, and the inhab., who are clean and thriving, have some manufactures of hempen and linen cloths.

CARLOW, or CATHERLOUGH, an inl. co. of Ireland, prov. Leinster, lying mostly on the E. side of the Barrow, having S. and E. Wexford and Wicklow, N. the latter and Kildare, and W. Queen's co. and Kilkenny. Area 219,863 acres, of which 23,030 are unimproved mountain and bog. Surface on the S. border mountainous, but elsewhere gently undulating. Besides the Barrow, by which it is partly intersected and partly bounded, it is watered by the Slaney. Soil in the uplands a light gravel; in the lowlands a fertile loam. This is one of the principal dairy co.s. in Ireland; and the stock of cows has latterly been a good deal ameliorated by the introduction of Ayrshire, and other improved breeds from Great Britain. Estates middle-sized; and that minute division of land among the occupiers, so destructive of the best interests of the country, has prevailed less here than in most other parts of Ireland. Agriculture is, in consequence, in a much more advanced state here than in many other Irish co.s.; there is a considerable breadth of land under green

crop; and improved farming implements are pretty generally introduced. Manufactures and minerals of no importance. Carlow is divided into 6 baronies and 50 parishes, and sends 3 mems. to the H. of C., viz. 2 for the co., and 1 for the bor. of Carlow. Registered electors for the co. 2,475 in 1864. Pop. 86,228 in 1841, and 57,187 in 1861. Gross annual value of real property assessed to income tax, 187,989*l.* in 1857, and 154,907*l.* in 1862.

CARLOW, a parl. bor., the principal town of the above co., and the place where the assizes are held, on the Barrow, where it is joined by the Burten, 45 m. SSW. Dublin, on the South Eastern railway. Pop. of parl. bor. 10,409 in 1841, and 8,978 in 1861. The town, properly so called, lies wholly on the left bank of the Barrow, but it is connected by a bridge with the suburb of Graigue, on the opposite side of the river in Queen's co.: this suburb has been included in the parl. bor., which extends over a space of 572 acres. It is a well-built, and, to some extent, a thriving town. It has an old castle now in ruins, but once a place of considerable strength and importance; a parish church with a spire; a handsome R. Cath. cathedral church, opened in 1834; a R. Cath. college and convent; barracks; a lunatic district asylum for the coe. of Carlow, Wicklow, Wexford, and Kilkenny, erected in 1830 at a cost of nearly 26,000*l.*; an elegant new court-house, a co. gaol, and co. infirmary. Besides the R. Cath. college, fitted for the accommodation of 200 students, there is a diocesan school, and numerous charity-schools both for Protestants and Catholics. There are also several charitable institutions.

Being situated on a main line of railway, as well as on a navigable river, communicating with Waterford on the one hand, and with Dublin, by means of the Grand Canal, on the other, Carlow has a very considerable trade. It is a great mart for the agricultural produce, particularly the corn and butter, of the surrounding country, great quantities of which are sent down the river to Waterford for exportation. It has also some large flour mills, and an extensive malting business; and furnishes considerable supplies both of flour and malt to Dublin. The Bank of Ireland has a branch here.

Carlow is a place of great antiquity, and has various charters; by the last of these in 1671, the bor. consists of a sovereign, elected annually, and twelve self-elected free burgesses. From 1613 down to the union with Great Britain it sent two mems. to the Irish H. of C., and since the union it has sent one mem. to the Imperial H. of C., who, till the passing of the Reform Act, was returned by the sovereign and burgesses. Registered electors 236 in 1862.

CARLOWITZ, a town of the Austrian states, Slavonia, within the military frontier, circ. Peterwardein, on the right bank of the Danube, 4 m. SE. Peterwardein. Pop. 4,350 in 1857, mostly of Servian descent. Many of the dwellings are mere huts, and it is only in part paved. It contains a Greek cathedral, two other Greek churches, a R. Cath. church, a hospital, seminaries for the Greek and Cath. clergy, a Greek lyceum, and a Cath. high-school. The subordinate jurisdiction of the town is in the hands of an equal number of R. Cath. and Greek magistrates. It is the seat of a Greek archbishop, the only one belonging to that church in the Austrian empire, to whom all the Austro-Greek clergy are subordinate.

CARLSBAD, a town of Bohemia, famous for its hot springs, on the Tepel, near the Eger, 72 m. WNW. Prague. Stationary pop. 4,384 in 1857. The town lies in a low narrow valley, surrounded by hills, covered with every variety of foliage, and affording the most extensive and varied prospects.

The town consists principally of lodging-houses and hotels, for the accommodation of visitors to the waters; but it has some good shops and private houses, with a theatre, assembly and reading-rooms. The Sprudel, the principal spring, is the hottest in Europe: its temperature being about 59° Reau., or 165 Fahr. The expansive force of the steam below forces up the water in jets to a considerable height; and to guard against the danger that has sometimes arisen from the obstruction of the apertures by which the water and vapour escape, it has been covered over by a solid bed of masonry. There are several other springs; that of Muhlbrunnen, which is the most commonly drank, has a temperature of 138° Fahr. Baths of all sorts are fitted up with every accommodation. The waters are efficacious in a great variety of complaints, but chiefly in those of the liver and kidneys. The walks and promenades in the neighbourhood of the town have a great deal of romantic beauty and interest. The number of visitors in the season varies from 10,000 to 15,000 every year, including nearly always some of the crowned heads of Europe.

Carlsbad, now the most fashionable and aristocratic watering-place in Europe, is of comparatively recent origin. The springs are said to have been discovered in 1376, by the emperor Charles IV., who, when hunting in the vicinity, was attracted to the spot by the cries of a hound that had fallen into one of the springs. The town belongs to the emperor. A celebrated congress was held here in 1819.

CARLSBURG, or KARLSBURG, a royal town of Transylvania, co. Unter-Albena, on the N. bank of the Maros, 32 m. NW. Hermanstadt; lat. 46° 5' 21" N., long. 28° 25' 10" E. Pop. 6,034 in 1857. It consists of the upper town or citadel built on a hill, and the lower town, situated beneath it. The citadel is surrounded by walls with seven bastions, and its principal gate is adorned with some fine sculptures. The town has a handsome R. Cath. church, containing the tombs and monuments of John Huniade, and several royal and other personages; the fine residence of the bishops of Transylvania, a canons' college, containing the provincial archives, royal mint, observatory with a fine collection of apparatus, several libraries and scientific collections, an arsenal and barracks. There are also a hospital, an ecclesiastical lyceum, college, and primary school. From the lower town a bridge, 210 paces in length, passes over the Maros.

CARLSCRONA, or CARLSCROON, a sea-port town of Sweden, on the Baltic, cap. prefecture Bleking; lat. 56° 10' 9" N., long. 15° 38' 25" E. Pop. 16,951 in 1858. The greater part of the town is built on the small rocky island of 'Tros-oe, and the rest on some adjoining islets; the communication with the mainland being maintained partly by a mound, and partly by a wooden bridge. The harbour is large and safe, with water sufficient to float the largest ships. It has three entrances, but the only one practicable for large vessels is on the S. side of the town, and is defended by two strong forts. The dry docks constructed here, for the building and repair of men-of-war, have been formed at a vast expense; they are of great extent, and have been cut out of the solid granite rock. The town is well built, consisting partly of brick, but principally of wooden houses. The arsenal, and other buildings connected with the docks and shipping, are on a large scale; and there are also two handsome churches, an hotel for the prefect, a hospital, and a lazaretto. There is a great deficiency of good water; that which is obtained from the wells sunk in the town is brackish,

so that when rain-water fails, recourse has to be had to springs distant about 3 m. There are some manufactures of canvas and linen, with anchor forges and tanneries. The trade of the town is but inconsiderable; the exports consist principally of iron, copper, steel, potash, tar, and pitch.

Carlsrona derives its name and origin from Charles XI., who, in 1680, conferred on it considerable privileges, and removed the fleet thither from Stockholm. It has since continued to be the principal station of the Swedish fleet; but the admiralty, which had been long seated here, was, in 1776, transferred to Stockholm. In 1790, it suffered severely from a fire.

CARLSHAMN, or KARLSHAFEN, a sea-port town of Sweden, prov. Bleking, cap. herad., on the Baltic, at the mouth of the Nie, 55 m. W. Carlsrona; lat. 56° 12' 40" N., long. 14° 51' E. Pop. 5,730 in 1858. The town has two churches, a hospital, with considerable manufactures of canvas, woollens, and tobacco, and building-yards. The harbour is small, but safe. The exports consist of iron, timber, potash, pitch, and tar. Being built principally of wood, it has sometimes suffered severely from fires.

CARLSRUHE (*Charles's Rest*), a city of Germany, cap. of the grand duchy of Baden, circ. Middle Rhine, residence of the grand duke, and seat of the administration and principal state authorities, in the fine plain of the Haardwald, which surrounds it on the N. and W.; 4 m. E. the Rhine, 37 m. WNW. Stuttgart, 57 m. S. by W. Darmstadt, and 42 m. NE. Strasburg, on the railway from Frankfurt to Basel. Pop. 27,103 in 1861. The town is quite unique in construction, being built in the form of an outspread fan, or rather wheel, round the grand-ducal palace, from which, as a centre, thirty-two public routes radiate. Several of the streets stretch into the forest. The high, or long, street runs from E. to W., dividing the city into a N. and S. portion. Carlsruhe is in part walled, and has seven gates. It is a handsome, but rather dull town. Streets broad, well paved, furnished with foot-paths, and well lighted at night. Houses built in a great variety of styles, chiefly of brick. There are nine public squares, and facing the palace, at the point of union of the principal streets, is a semicircular range of elegant buildings, comprising the government offices, and others attached to the palace. The grand-ducal residence, a plain building, composed of a centre and two wings, contains the *Bleythurm* (lead-tower), from the summit of which there is an extensive prospect; a cabinet of coins and natural objects; a library of 80,000 vols.; and the church attended by the court. Towards the E. extend the large gardens and park belonging to the palace, which are thrown open to the public. There are several other palaces belonging to the nobility deserving of notice, and ninety public buildings, including four Protestant and Catholic churches, a synagogue, town-hall, in which both chambers of the senate meet; a museum, the grand-ducal and another theatre, a new mint, the post-office, infantry and cavalry barracks, arsenal, cannon-foundry, and several hospitals. Herr Stultz, the once fashionable London tailor, was the founder of one of these hospitals, which he endowed with 100,000 florins. In return for his generosity the tailor was created a baron. The city is supplied with water by an aqueduct from Durlach, distant 2½ m. E. by S.; it is adorned by several public fountains, and in the centre of the principal square is a stone pyramid, erected to the memory of the founder of the city. Its chief establishments for education are a lyceum, polytechnic, military, medical, and veterinary schools,

and academies of architecture and painting. It possesses an excellent botanic garden, a gallery of paintings, and a society of arts, under the patronage of the grand-duke. Carlsruhe is not a place of considerable trade. It has some manufactures of silks, carpets, woollens, snuff, chemical products, furniture, carriages, clocks, jewellery, and articles of luxury, but the prosperity of its inhabitants mainly depends on its being the seat of the court, and the residence of the principal officers of state. It is quite a modern city, and has risen around a hunting-seat built by Charles William, Margrave of Baden, in 1715.

CARLSTAD, a town of Sweden, cap. prefecture of the same name, on the island of Tingvalla, at the mouth of the Klar, on the lake Wenern, and on the projected railway from Christiania to Stockholm. Pop. 4,828 in 1858. The town is built of wood on a regular plan; has a handsome cathedral, a gymnasium, an observatory, an agricultural society, a cabinet of natural history, and a tobacco manufacture; and is the seat of a bishopric, and the residence of the prefect. The opening of the Gotha canal has added considerably to its commerce. It exports copper and iron, corn, salt, and timber.

CARLSTADT, a town of Austrian Croatia, co. Agram, cap. circ. of same name, at the confluence of the Korana and Dobra with the Kulpa, immediately beyond the limit of the military frontier, 32 m. SW. Agram. Pop. 5,720 in 1857. The town is well built, though mostly of wood; has a small fortress, originally intended to resist the incursions of the Turks, and which is surrounded by ramparts, trenches, and palisades; and contains a handsome parade, barracks, and arsenal. It has five Catholic churches, a Greek church, a gymnasium, superior and girls' schools, a civic and military hospital, and is the residence of a Greek bishop. Considerable quantities of the liqueur called *rosoglio* are produced here. Its trade is unimportant, but its inhabitants derive considerable profit from the conveyance of goods to the ports of the Adriatic. It was founded by the late Archduke Charles, whose name it bears.

CARMAGNOLA, an inland town of N. Italy, prov. Turin, cap. dist., near the Po, 15 m. S. by E. Turin. Pop. 3,860 in 1861. The town is well built and laid out; many of its streets, as well as its principal square, are ornamented with porticos. It contains several churches and convents, and a hospital, and has two suburbs. It has considerable trade in silk, flax, hemp, corn, and cattle, for which two large markets are held weekly. This town formerly belonged to the marquise of Saluzzo: it was taken by the French in 1691 and 1796.

CARMEL (MOUNT), a famous mountain of Syria, extending from the plain of Esdraelon in a NW. direction till it terminates in the steep promontory forming the SW. extremity of the Bay of Acre. The name, Mount Carmel, is usually confined to this promontory, the height of which is variously estimated at from 1,500 to 1800 ft. This mountain is famous in Scripture history, more especially in that of Elijah, being the place where he destroyed the prophets of Baal. (1 Kings, xviii.) In more modern times, the mountain has been occupied by monks, who have resided in grottoes cut out of the rock, and in a monastery built near the summit. The latter was destroyed in 1821, but has since been rebuilt.

CARMONA (an. *Carmo*), a city of Spain, prov. Seville, cap. dep. of same name, 20 m. ENE. Seville, 56 m. WSW. Corlova. Pop. 15,667 in 1857. The town stands in a picturesque situation on an isolated hill, looking down upon the plains of Andalusia; it is well built, and has seven churches,

nine convents, and two hospitals, some Roman antiquities, and a beautiful Moorish gate. It has some manufactures of coarse woollen and hempen cloth, hate, glue, soap, delft, shoe leather, and wax candles; but most of them are in a decaying state. Its environs are very fertile, particularly in vines and olives. It was a place of importance under the Romans, and Caesar conferred on it the privileges of a Roman city. Under the Moors it was celebrated for its castles, palaces, and fountains, of which hardly any remains now exist.

CARNAC, a village of France, dép. Morbihan, on a height at a little distance from the sea, 20 m. SE. L'Orient. It is remarkable for very extensive remains of what is believed to have been a druidical monument. These consist of eleven ranges of granite stones, standing in lines nearly perpendicular to the coast. These stones are of great thickness, and from 9 to 10, perhaps 20, ft. in height. The French writers say that they are generally about 20 ft., and that the highest are 22 (French) ft. above ground. But Mrs. Stothard distinctly affirms that this is an exaggeration; that the highest do not rise more than 15 ft. above ground, and that the medium height is from 9 to 12 ft. (Letters from Normandy, p. 256.) Their number is said to exceed 4,000: the smallest end is fixed in the ground, and in some instances flat stones, supported by two of those that are upright, form vast gateways. The object, and the epoch of the construction of this extraordinary monument, are alike unknown. It has exercised the ingenuity of the antiquaries of Bretagne; but their researches have not been more successful than those of our own antiquaries on the subject of Stonehenge.

CARNATIC, a very extensive marit. prov. of S. Hindostan, comprising a considerable portion of the territory under the Madras presidency. It extends along the Coromandel coast, from Cape Comorin to the river Godegam, or between lat. 8° and 16° N., and long. 77° 15' and 80° 80' E., having N. the Northern Circars, W. the Balaghaunt ceded districts, the provs. Salem and Coimbatore, and the Cochin and Travancore dominions, and S. and E. the Indian Ocean, the Gulf of Manar, and the Bay of Bengal. Length NE. to SW. 560 m., average breadth about 90 m. Total area 52,023 sq. m.; estimated pop. 7,000,000. The E. Ghauts intersect this prov. in a NE. or N. direction, throughout its whole extent N. of lat. 11° 20', dividing it into the Upper and Lower Carnatic, or the countries above and below the Ghauts, differing of course greatly in elevation and proportionally in climate. The principal rivers, the Pennar, Palaur, Cavery, and Vagah or Vaygaroo, all rise in the table-land above the Ghauts, and fall into the ocean on the Coromandel or E. coast of India. The climate of the Lower Carnatic is one of the hottest in the peninsula, though in the immediate neighbourhood of the coast it is sometimes mitigated by sea breezes; that of the Upper Carnatic is similar to that of Mysore. The primitive rocks of this region are chiefly sienite, with a small proportion of felspar, and all the soil of the province appears to consist of the *debris* of disintegrated sienite mountains. Near the sea, sand and loam prevail upon the surface, sparingly intermixed with the remains of marine animals. Elsewhere, according to circumstances, loam is more or less prevalent, mixed with various proportions of gravel and sand, strongly impregnated with iron, and containing frequently large quantities of soda and common salt, which effloresce upon the surface in dry weather. Near Madras the soil is heavy, and abounds with salt: thence to Vellore, and, in many other parts, it is so sterile

as to nourish only the common bread tree (*Melia azadirachta*), the *Robinia mitis*, &c. Rice is the principal crop in the low country; in the highlands all kinds of small grains are cultivated. Sugar is grown only in small quantities, the soil not being rich enough for the canes. Tobacco and a little indigo are cultivated; but the latter not for exportation. The cotton raised is chiefly of the dwarf kind (*Gossypium herbaceum*). Irrigation being here generally of extreme importance to the success of the crops, numerous and extensive tanks have been constructed in such districts as are not traversed by considerable rivers. Famines and scarcities are not unfrequent in this part of India. The farms are mostly tilled by Sudras. During the first few years after our acquisition of the Carnatic, the land revenue of extensive tracts was rented out to a set of middle-men or temporary zemindars, who under-let certain parts to the heads of villages. That this system was not without its defects, is certain; and partly with the view of obviating these, and partly in order to secure a greater amount of revenue, the *ryotwar* system has been generally introduced. The principle of this system is to supersede all middle-men and head farmers, and to bring the collectors into immediate contact with the *ryots*, or cultivators, who are directly assessed with such a rent as it is supposed the land will bear; the more prosperous persons in a village being at the same time compelled to make up for the deficiencies of their less fortunate neighbours, and the assessment is perpetually varying. Notwithstanding our respect for the able men by whom this system has been recommended, it is not going too far to say, that it is a curse upon the country, and that till it be abolished, or very materially modified, nothing but impoverishment need be looked for. Most of the pop. are Hindoos of the Brahminical sect; there are comparatively few Mohammedans, and Hindoo customs are retained in wonderful purity throughout the prov. Madras, Pondicherry, Tranquebar, Tanjore, Arcot, Dindigul, &c., are the chief cities and towns. Formerly there were a vast number of strong hill forts; but most of them are now crumbling into ruin. Few provs. exhibit so many large temples and other public monuments of former civilisation and wealth: the temples are all built on a uniform plan, and inclosed within a four-sided wall, 15 or 20 ft. high.

The Moguls first invaded the Carnatic in 1310, but it was not finally in their possession till the reign of Aurungzebe. In 1717 it was severed, with the Mogul territories in the Deccan, from the throne of Delhi. After the wars, which lasted with little intermission throughout a great part of the 18th century, the Carnatic was conquered by the British in 1783; but it was not finally ceded till 1801.

CARNIOLA. (See CARINTHIA and CARNIOLA.)

CARNWATH, a village of Scotland, E. part of Lanarkshire, 25 m. SW. Edinburgh, on the Edinburgh line of the Caledonian railway. Pop. 895 in 1861. The place has of late been greatly improved; the numerous new houses that have been erected are handsome, and built according to a definite plan; and manufacturing industry has been introduced. The great body of the inhabitants are employed in weaving, and dependent on Glasgow for employment.

CAROLINA (LA), a town of Spain, prov. Jean, 35 m. NNE. Jaen; near the railway from Madrid to Cadiz. This is the cap. of the foreign colonies settled in the Sierra Morena in the reign of Charles III. The district where they are established was previously a desert, and abandoned to banditti; but Don Pablo de Olavido, who then held a high office in the government of Seville,

received the design of colonising the Sierra with foreigners, who should support themselves by their own labour. Most of the settlers were Germans, and each received 500,000 sq. ft. of land, free from rent for ten years, and after that to be subject to tithes only. With each allotment the government gave, also, 10 cows, 1 ass, 2 pigs, 2 fowls, and seed for the land, with a house, and a bake-house. The settler was restrained from disposing of the land to any one in possession of another lot; but was to be entitled to another equal grant on bringing the first into cultivation. But notwithstanding these and other advantages, the scheme has not been very successful. The funds assigned to carry it into operation were not regularly supplied, and the government was in too much haste to draw a revenue from the new pop. to reimburse itself for the first advances. Still the people present a striking contrast to the villagers in most other parts of Spain, being comparatively industrious and active. Corn, pasture, potatoes, and cabbages are raised in the spots best suited to them. The cottages are of better construction than the cabins of the Spanish peasantry, and have most necessary articles of household furniture; and their inhab., instead of sitting wrapped up in cloaks in a state of stupid apathy, are all busy with something or other. They have assimilated themselves in language and religion with their neighbours. There are fifty-eight of these townships in Spain.

CAROLINA (NORTH), a marit. state of the N. American Union, between $33^{\circ} 50'$ and $36^{\circ} 36'$ N. lat., and $75^{\circ} 30'$ and $84^{\circ} 20'$ W. long.; having N. Virginia, W. Tennessee, SW. and S. Georgia and S. Carolina, and SE. and E. the Atlantic. Length. E. to W., 430 m., average breadth 118 m. Area 51,000 sq. m. Pop. 992,622 in 1860, of whom 331,059 slaves, 1,158 Indians, and 30,463 free-coloured people. The greater part of the coast is fenced by a line of long, low, narrow, sandy isls., separated from the mainland in some places by narrow sounds, in others by broad gulfs or lagoons. The passages between them are mostly shallow and dangerous, and Ocracoke Inlet is the only one N. of Cape Fear, through which even small vessels can pass. The shores of the isl. are generally regular and unbroken, while that of the mainland is deeply indented by numerous inlets, the principal of which are Albemarle and Pamlico sounds. The only harbour of any importance is formed by the estuary of Cape Fear river, near the S. extremity of the state, and has 18 ft. water.

The surface may be classed under three divisions—the low level, hilly, and mountainous country. The low country comprises nearly all the E. half of the state, and for 60 or 80 m. inland consists of a dead flat, intersected with swamps and marshes, the most extensive of which, Alligator Swamp, more than 50 m. long, by 80 broad, occupies the peninsula formed by Albemarle and Pamlico sounds. The swamps are mostly covered with a luxuriant vegetation, and have extensive forests, chiefly of pine, cedar, and cypress trees. Beyond this region, the surface swells into hills, and in the most W. part rises into mountains. These belong to the Appalachian chain, which here rises to an elevation of 3,000 ft. They form two principal ranges, the most W. called the Iron Mountains, and the more E. the Blue Ridge; the intermediate valleys are estimated at about 1,000 ft. above the level of the Atlantic.

Most of the rivers in this state have more or less a SE. course, and flow directly into the Atlantic. The principal are the Roanoke, Neuse, and Cape Fear rivers. The latter is the only one

wholly within the state; it is navigable for small vessels to Fayetteville, 130 m. from its mouth. The Neuse, which opens by a wide estuary into Pamlico Sound, traverses the centre of the state, and is navigable for boats in most parts of its course. The Roanoke enters the state from the N., and flows into Albemarle Sound, after a course of about 370 m. It can be ascended by vessels of considerable tonnage for about 30 m. from its mouth, and by small craft to 70 m. higher.

The climate varies according to elevation; a difference of more than 50° Fahr. exists in the annual mean temp. of the E. and W. extremities of the state. In the low country, the summer is sultry, and pestilential diseases prevail; elsewhere it is very healthy, and the winters often severe.

Soil in the plains for the most part sandy and sterile. In the hilly country also there are some pine barrens; but these are less extensive than in Virginia, &c. Along the banks of the rivers, and W. of the mountains, there are lands of a rich black mould and of great fertility. The forests of the interior contain oak, hickory, maple, ash, cypress, cedar, and black walnut. Apples, pears, strawberries, the fig tree, vine (*Vitis vinifera*), wild vine, &c., attain perfection; the cherry-trees grow to an immense size, and peaches thrive every where. Snake-root, sarsaparilla, and other valuable drugs are found. Cotton and rice are staples. Large quantities of the former are grown on the sandy isls., and in the low country; rice is cultivated principally on the more solid tracts, interspersed amongst the swamps. All kinds of European grain, pulse, and flax are produced in the interior; and a great deal of pitch, tar, turpentine, and lumber are obtained from the pine forests. Maize thrives well; but the wheat is generally of inferior quality. The leaves of the canes, with which many of the lower lands are overgrown, afford good fodder for the cattle during the winter. Hogs are the most numerous of the domestic animals. The wolf and wild cat are almost the only formidable wild quadrupeds. Wild turkeys are plentiful. The Roanoke and other rivers abound with large fish. Alligators of an enormous size infest the swamps and lower courses of the rivers; and snakes, including the rattlesnake, are numerous.

In consequence of its want of harbours, N. Carolina has little direct foreign trade, and nearly all its commerce is with the neighbouring states. Its principal exports are cotton, rice, tobacco, lumber, in vast quantities, tar, pitch, turpentine, wheat, and Indian corn. There are several canals, but none of any great extent. Only two railroads lie wholly within this state; the Raleigh and Gaston, and the Wilmington and Raleigh. Both were completed in 1838; their united length is nearly 260 m., and the cost of their construction was estimated at about 2,500,000 dol. Others intersect the N. portion of the state, and several lines of railway have either been commenced, or projected, but their construction was prevented by the outbreak of the civil war in the United States, in which North Carolina took a leading part. The state is divided into sixty-two counties. Raleigh is the cap.; the other chief towns being Fayetteville, Wilmington, and Newburn. The legislative power is vested in a senate and a house of representatives. Both are elected annually by the people, each co. sending 1 mem. to the senate, and 2 to the H. of R. Electors of senators must possess fifty acres of freehold property; but the right to elect mems. of the H. of R. belongs to all citizens above the age of twenty-one. The executive power is in the hands of a governor, assisted by a council of 7 mems., chosen by a

joint vote of the two houses. The state sends 18 representatives to Congress.

N. Carolina is divided into six circuits, in each of which a circuit court is held half yearly. The judges are appointed by a joint vote of the two houses, and hold office during pleasure. Education is rather backward, but advancing. There is a university, and academies are established at various places. The earliest attempts made by the English to colonise America took place in this state; but the first colony, planted on the Roanoke river, in 1587, is supposed to have been cut off by the natives. In 1650 fresh settlements began to be made, and in 1667, the colony obtained a representative government. In 1717 Carolina was brought under the direct control of the crown, and in 1720 divided into N. and S. This state zealously joined in the revolutionary struggle. North Carolina separated from the United States by an Act of Secession passed May 20, 1861. The seaboard counties were reconquered in 1862, and the state again joined the Union in 1865, when slavery was finally abolished.

CAROLINA (SOUTH), one of the U. States of America, in the S. part of the Union; chiefly between lat. 32° and 35° N., and long. 78° 40' and 88° W., having N. and NE. N. Carolina; E. and SE. the Atlantic; and SW. Georgia; from which it is separated by the Savannah. Shape somewhat triangular. Length, NW. to SE., 240 m.; average breadth, 130 m. Area about 81,000 sq. m. Pop. 708,708 in 1860, of whom 402,406 slaves, 88 Indians, and 9,914 coloured free people. Surface very different in different parts; but its changes are, for the most part, gradual. The whole coast S. of Winyaw Point is broken into a number of low islands, and is flat, sandy, and alluvial. It continues so for nearly 100 m. inland, where a range of small and sterile sand hills stretches across the state NE. to SW. This tract is succeeded by a picturesque country of hills and valleys, clothed with extensive forests; and farther W. the country continues to rise till, at the border of the state, it terminates in a tableland, some peaks of which are estimated to rise to more than 4,300 ft. above the level of the Atlantic. This region forms part of the Appalachian, or Alleghany chain. The coast has several excellent harbours of the second class; but few of the first order. Those of Charleston and Port Royal are the best, and the only ones accessible for large ships. The chief rivers are the Savannah, Santee, and Pedee; but all of them are shallow at their mouths: further inland, the river navigation is much better than on the coast. The Savannah may be ascended by small river craft and steam-boats, as far as Augusta, 130 m. from its mouth. Much of the soil consists of a swampy land, applied to the culture of cotton and rice; more of the latter being produced in S. Carolina than in any of the other states. The low sandy islands along the coast, though apparently of very little value, furnish what is called the 'Sea-island' cotton, being the very best description of cotton that is any where produced. It is longer in the staple than any other variety, and is strong and even, of a silky texture, and a yellowish tinge. It degenerates if it be attempted to be raised at any considerable distance from the shore. It brings a much higher price than any other sort of cotton; but as it can be raised only in certain localities, its quantity is limited, and, apparently, unsusceptible of increase. Short-stapled cotton is raised in the more inland parts of the country; and wheat, maize, and other grain, as well as tobacco and indigo, are grown upon the high lands. There are many pine barrens, and some

unproductive sandy wastes; but the soil is generally extremely fertile, especially in those tracts lying along the courses of the rivers. In the lower parts of the country the winters are very mild, and snow does not lie long on the ground. Hurricanes and heavy periodical rains occur there: the summer is extremely hot, and pestilential fevers and other diseases are then generated. The N. and W. part of the states are, on the contrary, reckoned very healthy; frost and snow occur annually, from Nov. to Jan. The changes of temperature are, however, every where very sudden; and at Charleston the thermometer has been known to vary 46° in a day! The forests yield large quantities of oak, beech, hickory, ash, cypress, and other fine timber. Cotton, rice, and maize are the only considerable articles of export. The swamps on the banks of the rivers are well adapted for hemp, corn, and indigo. The culture of wheat, barley, oats, and Indian corn was, until lately, much neglected; and large quantities were annually imported. Tobacco is now more generally cultivated than indigo, which was formerly next in importance to cotton and rice; the sugar-cane is chiefly confined to the district of Beaufort in the S. Field labour is performed entirely by the black population, who, previously to 1865, were slaves, and who then comprised nearly three-fourths of the population. Planters were wealthy before the civil war, which desolated this state more than any other. Most of the farmers are of frugal and industrious habits. Wild animals, such as bears, wolves, foxes, wild cats, are much scarcer than formerly. The rattle-snake has become rare. Alligators of large size infest the marshes and mouths of the rivers. Iron, of good quality is found; and some gold has been found in the sands of some of the rivers.

The state is divided into 30 counties. Columbia, situated near the centre, is the cap. and seat of government; but Charleston is the largest town, and the principal emporium. The other chief towns are Savannah, Augusta, Camden, and Beaufort. The total value of real estate and personal property was returned at 548,138,754 dollars in 1860, but as this included the value of the slaves, liberated by the civil war and the events of 1865, the estimated wealth of the state must have greatly decreased since that time. The state government consists of a senate and house of representatives; the executive power is vested in a governor and lieutenant-governor, who are both elected for 2 years, and are again eligible for office after a lapse of 4 years. The senate consists of 45 members; half of whom are chosen for 4, and the other half for 2 years. The house of representatives is composed of 124 members, chosen every 2 years. The legislative assembly meet annually at Columbia. The chancellors and judges are chosen by ballot of the senate and house of representatives; and hold office so long as their conduct is approved. This state sends 9 mems. to the house of representatives, and 2 to the senate in congress.

South Carolina was first colonised about 1670; but no permanent settlement was formed till the foundation of Charleston, in 1680. In 1693, the cultivation of rice, and subsequently of cotton, was introduced by Governor Smith. The two Carolinas were separated, and a royal government established in 1719; and the state continued prosperous until the beginning of the disturbances, caused first by Indian warfare, and afterwards by the revolution, in which it took a prominent part, and suffered severely. Its constitution was formed in 1790; but has undergone

several amendments in 1801, 1816, and, as regards judicial matters, again in 1835. South Carolina was the first state which separated from the American Union, and thus originated the great and sanguinary civil war of 1860-65. The Act of Secession was dated Dec. 20, 1860. The state was admitted again into the Union in 1865, when slavery was abolished for ever.

CARORA, an inland town of Venezuela, prov. Coro, in a dry and sterile plain, 94 m. SSW. Coro; lat. $10^{\circ} 13' N.$, long. $70^{\circ} 26' W.$ Pop. estimated at 6,000. The town is well built and contains three handsome churches and a convent: its climate, though hot, is salubrious; it is supplied with water by a small rivulet. Its vicinity abounds with the Indian fig, aromatic balsams, gums, and excellent cochineal; but these resources are neglected for the breeding of cattle, which occupies many of the inhab. The town has manufactures of leather, and of hammocks from the fibre of the *agave-fetida*; the inhab. are industrious, and have a brisk trade in the products of their industry with Coro, Maracaybo, and Carthagena. Most of the inhabitants are Mestizoes, Mulattoes, and Indians.

CARPATHIAN, or KARPATIAN, MOUNTAINS, a very considerable range, enclosing Hungary on the N. and E., covering the principality of Transylvania, and forming the NE. portion of the great mountain system of S. Europe. Including a lower range, called Kleine Karpaten (Little Carpathians), these mountains commence on the left bank of the Danube, in the neighbourhood of Presburg; lat. $48^{\circ} 8' N.$, long. $17^{\circ} 6' E.$; thence they run NE. to the borders of Silesia, where, in lat. $49^{\circ} 30' N.$, long. $18^{\circ} 35' E.$, they meet the mountains of Moravia, through which they are connected with the Sudetes and other Bohemian ranges. After this they bend round to the E. and SE., separating Hungary from Galicia and the Buckowine, and Transylvania from Moldavia: they continue the last course as far as lat. $45^{\circ} 30' N.$, long. $26^{\circ} 30' E.$, where the main ridge turns due W., and forms the boundary between Transylvania and Wallachia. Finally, about the long. of $28^{\circ} E.$, it turns SW., and again meets the Danube at the town of New Orsova, lat. $44^{\circ} 44' N.$, long. $22^{\circ} 30' E.$ Between its extreme points, therefore, the Carpathian system describes a curve of about 800 m., and, except at its SE. corner, one of a very regular and gradual kind. Its width is various, but generally considerable; the longest line that can be drawn across it, in a direction perpendicular to its course, is from Boksan, in the Banat, NE., through Transylvania, to Putna in the Buckowine, about 240 m. From the great S. bend of the Danube at Waitzen, or from Mount Matra (about 85 m. E. of the bend) to the neighbourhood of the Vistula, the mountains measure 140 m. from S. to N.; but towards the NE., between the Upper Theiss and the sources of the Dniester, in Galicia, they are not more than 70 m.; and on the W., between the rivers Waag and Morava, they are less than 80 m. across. At a rough calculation, they may be said to cover 90,000 sq. m. With regard to elevation, the Carpathians do not attain the height of other great ranges, as the Caucasus, or the Alps; the highest measured peaks being under 9,000 ft. For a long time, the culminating point of the range was held to be Mount Butschetse, in Transylvania; but recent measurements have shown that another peak, known as the Lomnitz Spitz, or Lomnitz Peak, claims precedence. The highest ascertained eminences are in the county of Zips, the most N. part of the chain, between the meridians of 19° and 21° ;

and, among these, the following are the most noted:—

	ft.
Lomnitz Peak	8,779
Great Keamark ditto	8,647
Great Krivan Ridge	8,482
Gold Mine on ditto	7,083
White Sea Peak	7,075
Limestone Rocks, above the Fleisch Bank	6,629
Fleisch Bank	6,807
Kohlback	6,807
Grün See (Green Lake)	5,191
Brook at foot of the Fleisch Bank	4,999

The lower peaks, and subordinate ranges, vary from 2,000 or 3,000 to a few hundred feet in elevation. But if height be not, ruggedness is a very striking feature of the Carpathians: the roads among them are generally difficult, sometimes impracticable for horses; and the whole effect of their appearance is one of great majesty. The descent towards Galicia is much more abrupt than that towards Hungary, and in the SE. and S. the steepest sides of the mountains are towards Moldavia and Wallachia. The rivers, which mark the limits of the Carpathian system, are, on the N., the Vistula, as far as its junction with its most important affluent the San, and the Dniester; on the E. the Sereth; on the S. the Danube, from the mouth of the Sereth to that of the Morava, which marks the extreme limit of the mountains towards the W. Within these bounds, however, are contained a large quantity of flat land in Galicia and Wallachia, together with the greater part of the Hungarian plain; on the other hand, the bed of the Danube at Orsova is nothing but a cleft between the Carpathians and the N. branches of the Balkhan, and at Waitzen, in like manner, it can scarcely be said to break the continuity of the former with the offshoots of the Styrian Alps.

Geology.—The most ancient rocks are found only on the highest parts of the Carpathians, and not always there; one of the highest ridges in the Alpine country of Zips consisting of calcareous limestone. Granite, however, forms the substratum, or rather the main bulk and nucleus of the whole mass, and sometimes, even at slight elevations, lies at no great depth. Hornblende in small quantities, gneiss in much larger, and trap very considerably distributed, form the mass of the other older rocks; but the formation most worthy of notice is a kind of conglomerate, formed of hardened clay, quartz, shal, spar, and lithomarga, which, from its richness in ore, has obtained in Hungary the title of *Metallic Rock*, and which is met with most abundantly throughout the whole range, from Presburg to Orsova. Limestone, old and recent, occurs in immense quantities, and in the Alpine regions, Townson found stratified rocks of the first kind, of the amazing thickness of 2,100 ft. Basalt, porphyry, porphyritic basalt, jasper, petrosilex, lava, obsidian, and a whole host of substances, volcanic, and the result of aqueous deposition, are scattered in the wildest confusion among the lower ranges, giving unquestionable evidence of the extensive agency of both fire and water, but so little defined, that the best observers decline to offer an opinion as to the origin of many of the appearances. It is worthy of observation that the more recent formations, as sandstone, &c., observable in other countries, are singularly scarce in the Carpathians.

Hydrography.—These mountains form the dividing line between important river systems. The N. faces give birth to the Vistula and Dniester; but with these exceptions, no river that reaches the sea has its source within them. The affluents of these two, from the N. slope, are, however, extremely numerous, though not comparable to those

that pour from the S. and E. faces, to swell the stream of the Danube, to which river, also, the drainage of the NW. face is conveyed, with the exception of an insignificant portion, which finds its way to the Oder. The running water of the Carpathians belongs, then, to two systems, the Black Sea and the Baltic; and there are no lands better irrigated than those over which it flows; the Theiss, Maros, Aluta, and many others, would be called important rivers in most parts of the world, and the smaller streams and sub-tributaries are absolutely innumerable. (See DANUBE, VISTULA, DNIESTER, HUNGARY, &c.)

Mineral Productions.—The sides of the Carpathians are rich in the productions of the vegetable kingdom, and abound in animals of the most useful kind. The decomposed volcanic matter, which forms so large a portion of the soil, accounts for the first, and consequently for the second of these results. The particulars of both will be, however, better treated of under the heads of the different countries through which the mountains run. (See HUNGARY, TRANSYLVANIA, and GALICIA.) It is intended here to restrict the description to a brief account of their mineral wealth, in which respect they stand pre-eminent among the various ranges of Europe. Nearly every metal, and all in abundance, are produced in the Carpathians. The richer mines of Transylvania and the Banat yield for 1 cwt. of ore 125 oz. of gold, and 68 oz. of silver, and all the mountains of these beautiful countries are full of signs of undiscovered metals. It appears, however, that native gold and silver is scarce, except in the SE. districts, but all the other ores are mixed with these precious metals throughout the whole range. The stamping-works at Schemnitz employ 1,000 hammers, each hammer stamping three quintals of ore per day; the return averaging 12,000 florins per month, clear profit to the government. It would be endless to go through a detail of all the wealth of these mountains; suffice it to say, that copper, iron, lead, cobalt, antimony, sulphur, and saltpetre, are found in large quantities; cinnabar also appears, but not in sufficient abundance to tempt the miner; and in many places there are large fields of coal. Rock-salt is also one of the treasures of these mountains. The Polish mines of Galicia have long been famous, and from all appearances, their treasures are actually inexhaustible. In a word, the Carpathians appear to be one extensive mine, where nearly all the varieties of metallic wealth are produced; in addition to which, their recesses yield the opal, one of the noblest and most valuable of gems.

Name.—The Carpathians were known to the ancients, and by their present name, *Καράβας* (Ptolemy, iii. 5); and they applied the same name to that part of the Mediterranean which lies about the island of Rhodes. (Ptolemy, v. 2; Strabo, x. 488.) Its etymology is not very clear; but Strabo, in speaking of the sea, calls it also *Crapathian* (*Κράπαθος*); and though it be not very easy to connect the ideas of these mountains with that of the remote shore of Asia Minor, it is something remarkable that the German term for the former is *Krapack*, of which the Greek of Strabo seems only a softened form. The Hungarian name for these mountains is *Tatra*.

CARPENTARIA (GULF OF), an extensive arm of the sea, deeply indenting the N. coast of New Holland, between 10° 40' and 17° 30' S. lat., and 137° and 142° E. long. No settlements have, as yet, been founded on its coasts.

CARPENTRAS, a city of France, dép. Vaucluse, cap. arrond., in an agreeable situation, at

the foot of Mont Ventoux, and on the left bank of the Auzon, 15 m. NE. Avignon, on a branch of the Paris-Mediterranean railway. Pop. 10,918 in 1861. The town is surrounded by high walls in good repair, flanked by several towers, of which the most remarkable is that surmounting the *port d'Orange*. It is well built, but the streets are narrow, winding, and dirty. There are some good houses without the walls, in the suburbs. It is well supplied with fountains, and water is conveyed into the city by two aqueducts, one constructed by Clement V., and one by the town, in the early part of last century. The principal public buildings are the hospital, erected in 1757, without the walls; the cathedral, a large Gothic pile, with a spire of the age of Charlemagne; the ancient episcopal palace, now the palace of justice; contiguous to the latter is an ancient triumphal arch. Carpentras is the seat of a tribunal of primary jurisdiction, and has a departmental college, a Jewish synagogue, a society of rural economy, a public library, with 22,000 vols., and some valuable manuscripts. It has distilleries, dye-works, tanneries, and madder-mills, with fabrics of soap and aquafortis; and has a considerable trade in silk, madder, and excellent fruits.

Carpentras is very ancient, having been, under the Romans, a principal town of Gallia Narbonensis. It was successfully attacked and pillaged by the Vandals, Lombards, Saracens, and other barbarians. During the residence of the popes at Avignon, it began to revive; and was, for a short period, under Clement V., the seat of the holy see. The bishopric of Carpentras, said to have been founded in the third, was suppressed in the present century.

CARRARA, a town of Central Italy, prov. Massa-Carrara, on the Lavenza, about 3½ m. from the Mediterranean, and 60 m. WNW. Florence. Pop. 13,335, in 1862. The town has an unfinished cathedral, several churches, a convent, and an academy of sculpture. Several artists have fixed their residence here, attracted by the convenience of obtaining marble almost cost free; and the sale of rude marble and of articles of sculpture forms an important branch of traffic.

The marble quarries from which this town derives its entire celebrity and importance have been wrought from the age of Augustus, and probably from a still more remote epoch. They are found in the lower ridges of the hills which unite in the Monte Sagro. The beds of the dove-coloured (*bardiglio*) marble are the nearest to the town. Higher up the valley are the beds of white marble. Only a few of these beds produce marble of such a grain and transparency as to be highly prized by the statuary; and if the quarrymen succeed in obtaining one block in ten that preserves throughout a good colour, they are satisfied. Still higher up, the marble becomes of a dull, dead, colour; but of this much larger blocks may be obtained. The principal quarries of veined marble are in a parallel valley. Notwithstanding the vast quantities that have been dug up since these quarries began to be wrought, the supply of marble in this district seems to be now as inexhaustible as ever. About 1,200 men are always employed in the quarries.

CARRIBEEAN SEA is the name given to that arm of the Atlantic Ocean included between the Caribbee Islands on the E., Hayti and Jamaica on the N., Guatemala on the W., and the N. coast of S. America on the S.

CARRIBEE ISLANDS, or **LESSER ANTILLES**, the name sometimes given to that portion of the W. Indies that includes the vast chain

of islands which extends, in a circular sweep, from Anguilla on the N. to Trinidad on the S. They comprise the whole of the Windward and the more S. portion of the Leeward islands. The principal islands, reckoning from the N., are St. Christopher, Antigua, Guadeloupe, Dominica, Martinique, St. Lucia, Barbadoes, St. Vincent, Grenada, Tobago, and Trinidad. They derived their name from having been mostly occupied, at the period of their discovery, by a tribe of Indians, called Carribs or Caribbees, now nearly extinct.

CARRICKFERGUS, a parl. bor. and sea-port of Ireland, co. Antrim, prov. Ulster, on Carrickfergus Bay, or Belfast Lough, 95 m. N. Dublin, 9 m. NNE. Belfast, on the railway from Belfast to Ballymena. Pop. 8,023 in 1821; 9,379 in 1841; and 9,422 in 1861. The castle, on a rock projecting into the sea, was built or much strengthened by the English shortly after their first landing in Ireland under Strongbow. It is still kept up as an arsenal, and is mounted with heavy guns. King William landed here on the 14th of June, 1690, 16 days previously to the battle of the Boyne. In 1760, it surrendered to a French naval force under Thurot, who soon after evacuated it on the appearance of the English squadron under Commodore Eliot, by which Thurot's squadron was captured, after an engagement in which he lost his life. On the 24th of April, 1778, Paul Jones captured the Drake sloop of war in the bay; but sailed off without making any hostile attempt on the town.

Carrickfergus consists of the town within the walls, parts of which still remain; and of suburbs on the E. and W. sides, called the Scotch and Irish quarters. It is pretty well built, and has a respectable, though antiquated appearance; it is not lighted, and is but indifferently supplied with water. The church, a large cruciform building, with a fine modern spire, has, in one of the transepts, a large mural monument of the Donegal family; there is also a Roman Catholic chapel, and places of worship for Presbyterians, Independents, Methodists, Covenanters, and Unitarians. The castle, kept up as a fortress and magazine, has a number of heavy guns mounted on the walls, and is garrisoned by a company of foot. The town and the adjoining district, containing 16,700 acres, forms a co. independent of that of Antrim, within which it is enclosed on every side, except towards the sea. By its ruling charter, granted by James I. in 1612, the corporation consisted of a mayor, sheriffs, 16 aldermen, 22 burgesses, and an indefinite number of freemen; but this body is now extinct, and the government of the town and the corp. property is vested in a board of commissioners. The borough returned 2 mem. to the Irish H. of C., and sends 1 mem. to the imperial H. of C. Registered electors, 1,243 in 1865. The assizes for co. Antrim are held here in the court-house in the county prison, a large and expensive, but ill-arranged building. There is a small local police. The rural district is watered by numerous streams, and in it is Lough Mourne, covering 90 acres, at an elevation of 556 ft. above the level of the sea. Tanning is carried on to a considerable extent. There are in the town also several cotton and flax-mills. The inhab. derive their principal support from the concourse of strangers at the assizes, and during the bathing season; and from the fisheries. Excepting haddock, all kinds of fish that frequent the Irish coast are abundant; as are oysters celebrated for size and flavour, scollops, and lobsters. A pier has been built for the use of the fishermen; but it is defective in not being accessible at low water. The greater part of the fish is sent by land to Belfast for sale. Markets are held on Saturdays; fairs on 12th May

and 1st November. The port was long the chief mart on this part of the coast; but in 1637, the corporation having sold its exclusive privileges to the crown, the business has since been almost wholly transferred to Belfast; its trade being, at present, confined to the import of coal, and the export of cattle and grain. There were, in 1863, 365 registered vessels belonging to the port, most of them under 50 tons burthen. The largest vessels may enter the bay at low water, but are prevented from discharging at the town, through the want of a landing-pier with sufficient depth of water. The appearance and manners of the inhab. exhibit striking indications of their Scotch descent. The lower classes are industrious, frugal, and honest. Though wealthy residents are not numerous, many are in a state of respectable independence; most industrious persons attain the means of comfortable subsistence, and very few are in a state of destitution.

CARRICKMACROSS, an inl. town of Ireland, co. Monaghan, prov. Ulster, 46 m. NW. by N. Dublin. Pop. 2,979 in 1831, and 2,068 in 1861. The town consists of one long street, in which is the church, a R. Cath. chapel, which serves as the cathedral for the R. Cath. bishop of Clogher, and a Presbyterian meeting-house. A grammar-school, endowed by Lord Weymouth, was rebuilt in 1838. There is also a dispensary, a mendicity society, a savings' bank, and a bridewell. Petty sessions are held every fortnight: a party of the constabulary is stationed here. Markets are held on Thursdays, and on corn on Wednesdays and Saturdays: fairs on 27 May, 10 July, 27 Sept., 9 Nov., and 10 Dec.

CARRICK-ON-SHANNON, an inl. town of Ireland, prov. Connaught, cos. Leitrim and Roscommon, on the Shannon, 85 m. WNW. Dublin, on the Midland Great Western railway. Pop. 1,673 in 1821, and 1,587 in 1861. The town lies principally on the Leitrim bank of the river, being connected with a small suburb on the Roscommon side by a bridge; and has a church, a R. Cath. chapel, 2 Methodist meeting-houses, and a co. infirmary and dispensary. It was incorporated by James I. in 1613, under a provost, 12 burgesses, and an unlimited number of freemen, and returned 2 mem. to the Irish H. of C.; but was disfranchised at the Union. The assizes for the co. Leitrim, of which it is the co. town, are held here, as are general sessions, in Jan. and July, and petty sessions on alternate Mondays. The co. court-house, gaol, and bridewell are in the town. A party of the constabulary is stationed here; and it has an infantry barrack. A trade in butter, grain, and provisions is carried on by the Shannon, now rendered navigable to Lough Allen, as well as by railway. Yarn is also manufactured. Markets are held on Thursdays, in an enclosed marketplace; and fairs on 18 Jan., 20 Mar., 12 May, 6 June, 11 Aug., 14 Sept., 22 Oct., 21 Nov., and 16 Dec.

CARRICK-ON-SUIR, an inl. town of Ireland, prov. Munster, cos. Tipperary and Waterford, on the Suir, 85 m. SW. by S. Dublin, on the railway from Waterford to Limerick. Pop. 9,626 in 1881, and 6,536 in 1861. The town, situate at the SE. extremity of the Golden Vale, and near the junction of the cos. Tipperary, Kilkenny, and Waterford, consists of an open area surrounded with houses, and a long street leading to a bridge across the river, connecting it with the suburb of Carrickbeg, formerly C. magriffin, in co. Waterford. It has a par. church, a R. Cath. chapel, an abbey, a nunnery, a fever hospital and dispensary, an almshouse, and the ruins of the castle built by an ancestor of the Earl of Ormonde. Some traces of the town walls are still visible. The woollen manu-

facture was carried on under the auspices of the Ormonde family till the close of last century; but all traces of it have now disappeared, and the labouring pop. are very poor and miserable. Tanning and brewing are still carried on; and there is a considerable trade in grain and provisions. Large vessels come up the Suir to Piltown, about 4 m. lower down, whence their cargoes are conveyed to the town by lighters. A local act authorises river improvements, which, if effected, will enable vessels of larger tonnage to discharge at the town. Petty sessions are held every fortnight. A party of the constabulary is stationed here. Markets are held on Saturdays; fairs on the first Thursday of every month. By a grant of William III. the par. is exempted from co. rates.

CARRON, or CARRONSHORE, a village of Scotland, celebrated for its iron-works, co. Stirling, 2 m. NE. Falkirk, on the Carron, a stream which falls into the Frith of Forth, at Grangemouth. Pop. 1,035 in 1861. The iron-works were first set on foot in 1760. The Carron company, which is chartered, had an original capital of 50,000*l.* sterling, divided into 600 shares; but which has been greatly augmented since its formation. The Carron iron-works were long the most extensive in Scotland, and were for a while, perhaps, the most extensive in Britain; but they are now far surpassed by similar establishments in Scotland, and by vast numbers in England. The works are employed in the smelting of iron ore, and the manufacture of all kinds of cast-iron goods, whether for civil or warlike purposes. But they were chiefly celebrated, during the late French war, for the manufacture of cannon, mortars, howitzers, carronades (so called after Carron, where they were first made), bombs, and such like warlike instruments. Since the peace, this branch of business has been well nigh annihilated, except for the supply of a limited foreign demand. The company convey their goods to Liverpool and London (at both of which they have warehouses), and other places, in their own vessels, which vary from 15 to 20 in number. The Forth and Clyde canal runs within a $\frac{1}{2}$ m. of the works, so that the access to both seas is most convenient. The company have cut a canal from the interior of the works down to the Carron Wharf at Grangemouth, 8 m. dist., on which lighters ply and carry their goods for shipment at the latter place. The supply of water is abundant, derived partly from the river, and partly from artificial reservoirs, which cover about 250 acres of ground.

CARTAGENA, or CARTHAGENA, a marit. city of New Granada, and the chief naval arsenal of that repub., cap. prov. of same name, on a sandy peninsula in the Carribean Sea, connected with the continent by a narrow neck of land, 410 m. N. Bogota; lat. $10^{\circ} 26' N.$, long. $75^{\circ} 34' W.$ Estimated pop. 25,000. The city has, on its E. side, a suburb called Ximani, standing on an island, and almost as large as the city itself, with which it communicates by a wooden bridge. Both the city and its suburb are surrounded by strong fortifications, and at a short distance from them on the mainland they are overlooked by a strong fort placed on an eminence about 150 ft. high. These works are, however, commanded by a contiguous hill, rising to the height of 550 ft. above the sea, and which, instead of a fortification, has on its summit an Augustine monastery. The possession of this hill has several times led to the capture of the city.

Cartagena is famous for its port, one of the largest and best on the N. coast of S. America. It lies to the S. of the town, between the peninsula on which it is built and the island of Tierra-Bomba, and the mainland. The anchoring ground

is excellent; and being completely land-locked, vessels lie in it as if in dock. It had originally two entrances,—the *Boca Grande*, close to the city, and the *Boca Chica* (narrow passage), several miles farther S. The former, however, was blocked up by the Spaniards, subsequently to Adm. Vernon's attempt upon the place in 1741, by sinking several ships in the channel. The *Boca Chica* is defended by two strong castles. Cartagena contains a handsome cathedral, several other churches, convents, &c., and some fine public cisterns. The city and its suburbs are well laid out; streets regular, and well paved; houses mostly of stone, and of one story above the ground floor, with balconies in front, and lattices instead of windows. A recent French traveller, speaking of the town, observes that it presents a melancholy aspect with its long galleries, short and clumsy columns, and streets darkened by projecting terraces, &c.; but he admits that, how singular soever the construction of the houses, they appear to be well contrived for supplying the indispensable luxury of fresh air. The great drawback upon the place is its climate, which is intensely hot. It is not unfrequently visited by the yellow fever, and is infested with tormenting and destructive insects. The importance of Cartagena has greatly declined of late years; but it is still the principal depôt for the goods of Bogota, Popayan, and Quito, and has a considerable foreign trade. Its artisans are ingenious, and excel in the manufacture of shell articles. There is regular communication, by steamers, with the chief ports of the United States and Europe. Cartagena was founded in 1583, and was long considered as the great bulwark of the Spanish possessions in S. America. It was taken by a Corsican pirate in 1544, by Sir F. Drake in 1585, and by the French in 1697. Under the Spaniards it was a bishopric, and the seat of a captain-general, and of one of the three tribunals of the Inquisition in America. It is still the residence of a bishop.

CARTAGO, or CARTHAGO, an incl. town of New Granada, prov. Popayan, on the left bank of the Vieja, a little before its junction with the Cauca, 165 m. NNE. Popayan; lat. $4^{\circ} 45' N.$, long. $76^{\circ} 8' W.$ Estimated pop. 3,000 in 1860; but above 10,000 previous to 1841, when the town was almost entirely destroyed by an earthquake. The town, though still in ruins, has a good trade in cattle, dried beef, fruits, cacao, and tobacco. Its whole district is rich in mineral products; its climate is hot and dry, but healthy.

CARTHAGE (Lat. *Carthago*, Gr. *Καρχηδών*), a famous marit. city, long the rival of Rome, with which she waged a lengthened, doubtful, and desperate contest for the empire of the world, situated on the N. shore of Africa, in the immediate neighbourhood of Tunis. But such is the mutability of human affairs, and so complete the destruction that has overtaken this celebrated city, *dives opum, studiisque asperima belli*, that even her position has been matter of dispute among the learned!

Giace l'alta Carthago, e a pena i segni
Dell'alte sue ruine il lido serba!

But the plans of M. Falbe seem to have put to rest all doubts as to the situation of Carthage; and, combined with the learned and elaborate dissertation of Dureau de la Malle, give not only a satisfactory explanation of the form and situation of the city, but of all that can be ascertained respecting it from the most careful examination and comparison of ancient authors. Referring such of our readers as may wish for full information as to this interesting subject to the sources now mentioned, we shall content ourselves with stating

that Carthage was principally built along the coast of the peninsula to the N.E. of Tunisia, from a little N. of the goletta or entrance to the lagoon of Tunis to Cape Carthage (lat. $36^{\circ} 51' 30''$ N., long. $10^{\circ} 26' 45''$ E.), and then round to Cape Qumart. It was defended on the land side, where it was most open to attack, by a triple line of walls of great height and thickness, flanked by towers, that stretched across the peninsula from the lagoon of Tunis to the sea on the N. The harbour lay to the S. of Cape Carthage, and was entered from what is now the Gulf of Tunis. Having less to fear from attacks by sea than by land, the city had on that side only a single wall.

At the period of its greatest splendour Carthage must have been one of the richest and finest cities of the ancient world. It consisted of three principal divisions, viz. the *Byrsa*, or citadel, built on an eminence, the summit of which was occupied by a magnificent temple in honour of *Æsculapius*; and it also contained the famous temple of the Phœnician Astarte, the Juno of Virgil. The *Megara*, or town so called, lay to the W. of the *Byrsa*, along the triple wall, and was of great extent, comprising extensive squares and gardens. The third division was called the *Cothon*, or port; this, as its name implies, was artificially excavated, and consisted of two great basins, an outer and an inner; the first for merchantmen, and the latter for ships of war. The access to both basins was by a common entrance, which was shut up by a chain; and each was supplied with quays, warehouses, and stores, suitable to its destination. It was in this quarter that the seamen, shipwrights, merchants, and others connected with the warlike and mercantile marine of the republic principally resided.

Besides the public buildings already alluded to, Carthage had a famous temple in honour of its tutelary deity, Melcarthus, or Saturn, whose altars were sometimes stained with the blood of human victims: with temples to Ceres, Jupiter, &c. It had also all the usual places of public resort and amusement, including a magnificent forum, a circus, and a theatre. The water within the precincts of the city seems to have been at once scarce and bad; and to obviate the inconvenience thence arising, vast cisterns, of which the ruins still exist, were constructed for the saving and preservation of rain-water. The streets were all paved; and this essential improvement in the construction of streets is said to have been originally introduced by the Carthaginians. Strabo states that the pop. of Carthage amounted to 700,000; but M. Dureau de la Malle has shown that no reliance can be placed on this statement, and that the pop., previously to the destruction of Carthage by the Romans, cannot safely be estimated at above 250,000 persons, slaves included. (*Recherches sur la Topographie de Carthage*, pp. 1-100.)

The early history of Carthage is involved in the greatest obscurity. All that is certainly known with respect to it is that it was founded by a body of emigrants from Tyre; but of the occasion and epoch of their emigration we have no certain knowledge. The common opinion is that Utica, also a Tyrian colony, was founded before Carthage; and that the foundation of the latter took place anno 1259 B.C. It is probable that the colony subsequently received fresh accessions of immigrants from the mother country; and it is supposed that one of these was headed by Eliza or Dido, to whom Virgil has ascribed the foundation of the city. (*L'Art de Verifier les Dates*, iii. 414, 8vo. ed.)

The Carthaginians appear to have inherited, in

its fullest extent, the enterprising character of their ancestors; and, like them, were principally addicted to navigation and commerce. After extending their sway over a considerable part of Africa, they began to make settlements in, and to endeavour to subjugate, more distant countries. The fine and fertile island of Sicily seems to have early excited the ambitious views of the Carthaginians; but, though they had several valuable settlements in it, they were uniformly thwarted in their efforts to effect its complete subjugation. After the destruction of Tyre, Carthage inherited the possessions of the former in Spain, to which she afterwards made large additions; and she also subjugated the island of Sardinia.

Of the long-continued struggle between Carthage and Rome, it would be useless, even if our limits permitted, to say any thing. It is a favourite subject of every classical reader, and has been ably treated in many modern works; but it is much to be regretted that we have no Carthaginian history of this memorable contest, and that we are constrained to depend wholly on the one-sided prejudiced accounts of the Latin historians, and the Sicilian Greeks. The reader will do well to bear this in mind, and to modify most of the statements unfavourable to the Carthaginians.

Government.—As far as can be gathered from Aristotle, and the incidental allusions of other writers, the government of Carthage seems to have been one of the wisest and best constituted of ancient times. Like that of the mother country, it is generally supposed to have been originally monarchical; though on its first emerging into authentic history we find it an aristocracy of birth and wealth, with a slight mixture of democracy. At the head of this aristocracy was a senate analogous to the senates of Sparta and Rome, and composed of the most illustrious citizens. Its members appear to have been very numerous; but all statements with regard to the mode of their election, or the duration of their authority, must be purely conjectural. The senate had the management of all affairs of peace and war, the arrangement of treaties and negotiations, and, in short, the power of deliberating, and to a certain extent, of deciding upon all public affairs. Within itself, the senate contained a committee of 104, called, by a round number, *centumviri*, originally instituted as a check upon the encroachments of the aristocracy. It afterwards became a high court of judicature, vested with such authority as rendered it in effect the depository of all the sovereignty which lay in the senate itself. Aristotle compares this committee, or council, to the *ephori* of Sparta, but it should seem that the pentarchies, or *quinquenviri*, had a better title to the comparison. These were composed of several bodies, each consisting, as the name implies, of five persons selected from the *gerousia*, or committee, and possessed of almost despotic authority. They had cognisance of all affairs both public and private, and appear to have constituted a court of appeal in the last resort for all causes. They continued in office a long time, and had not only the power of filling up vacancies in their own body, but the right of choosing those who composed the tribunal of the *centumviri*. This, no doubt, was a highly aristocratical institution; and Livy says of it, that '*vis, fama, vitæque omnium in illorum potestate erat.*' At the head of the senate were two magistrates, or *suffetes*, answering to the Spartan kings or the Roman consuls. Originally the right of electing the *suffetes* was vested in the senate; but in the decline of Carthage it fell into the hands of the people. In their nomination, according to Aristotle, regard was had chiefly to birth, riches,

and popularity; and a passage in the recently discovered work of Cicero (*De Republicâ*), in which he compares them with the Spartan kings, and contrasts them with the Roman consuls, would lead us to infer that they were elected for life. Their province was to convene the senate, in which they presided, to propose subjects for deliberation and to collect the suffrages. In time of war, one of the *suffetes* was usually appointed general of the forces of the state, while his colleague remained at home. But besides the *suffetes* there were other subordinate magistrates, with the nature of whose duties we have become acquainted only through the Roman writers. We hear, for instance, of a *prefectus morum, prætor, questor, &c.*, with powers analogous to those of the Roman magistrates so called; but these statements must be received with great caution, considering the tendency of the Roman, as indeed of all authors, to represent the institutions of other people as corresponding with or analogous to their own, though, in reality, there might be very little in common between them. The people were divided into guilds or corporations; and though in the infancy of the state they did not directly participate in the administration of affairs, they possessed, from the first, the important privilege of deciding upon those questions about which there was a difference of opinion in the senate. They had also, like the Spartans, their public or political festivals, at which questions of policy were discussed; and thus public opinion was enabled to exercise a salutary influence over the deliberations of the senate. Upon the whole it should seem, that although, as indeed might have been expected in a commercial state, the influence of wealth preponderated in the administration of affairs, still so well had the constitution of Carthage been balanced, that while, on the one hand, the nobles did not engross the whole power, as was the case in Sparta, Corinth, and Rome, the people seldom or never exhibited the factious spirit of the 'fierce Athenian democracy,' or the ferocity of the Roman rabble. 'The excellence,' says Aristotle, 'of the Carthaginian government is evinced by a single reflection: though its origin mounts to a very ancient date, and though, for many centuries, it has contained within its bosom a numerous and a free people, yet Carthage has never, to the present day, experienced any one sedition worthy of record, nor has it ever endured, for a moment, the cruel yoke of a tyrant.' (Gillies' Aristotle, book ii. § 9.)

Possessions and Commerce.—At this distance of time, and with our scanty means of information, it is almost impossible to trace the various stages of Carthaginian encroachment on the neighbouring territory; but we are enabled to state pretty accurately the extent of country in Africa subject to Carthage at its most flourishing epoch. E. it stretched to the Syrtis and the confines of Cyrene; S. to Lake Triton and Mount Atlas; and W. (though this point has been less accurately ascertained) to the territories of the Numidian princes; while in the same direction the whole African coast was studded with Carthaginian colonies. Hence its subjects were divided into three different classes: the first were the cities on the coast, such as Utica, Hippo, Zaryta, and others, which, like itself, were colonies from Phœnicia. These were at first not so much its subjects as its allies; though at a later period a supremacy was conceded to it which soon passed into sovereignty. The next class consisted of its own colonies—the maritime colonies on the coast and the agricultural settlements in the interior of the country. The third class were the native Libyans, to whom Carthage had originally been tributary, but who

submitted to her authority. These were partly a fixed agricultural people, who, from a gradual amalgamation with the Carthaginians, were called Liby-Phœnicians, and were kept in restraint by the agricultural colonies planted among them; and partly nomadic tribes, whose allegiance was partial and precarious. The agricultural population only, which the Carthaginians had trained and accustomed to that mode of life, could be treated as subjects, properly so called; for the nomadic tribes were subject to Carthage only so far that they paid her tribute; and their hatred of those who disturbed their aboriginal mode of life, fomented as it was by the oppressions of the Carthaginian government, frequently broke out in revolt when the approach of an enemy gave the signal. But the Carthaginians appear to have attached less importance to their possessions in Africa than in other parts. At an early period they became masters of Sardinia, the Balearic Islands and Malta. We have already noticed their vigorous and long-continued efforts to make themselves masters of Sicily; and had they succeeded in this, the foundations of their power would probably, as Heeren supposes, have been established on a solid basis. The failure of their efforts to effect the conquest of Sicily, and the loss of Sardinia, that was taken from them by the Romans, seem to have impelled them to attempt the subjugation of the entire Spanish peninsula. They had also several settlements along the W. coast of Africa; and it is probable, though not certain, that Madeira and the Canary Islands (*Fortunate Insule*) were included in their dominions.

The commercial operations of Carthage embraced the whole ancient world, and have only been surpassed by those of Europe since the discovery of America and the passage to the East Indies by the Cape of Good Hope. But the greatest difference of opinion exists as to the extent to which the Carthaginians carried their maritime expeditions; and while some geographers restrict their limits between the S. coast of Britain on the N. and Cape Bojador on the S., others contend that they reached the coasts of the Scandinavian peninsula, circumnavigated Africa, and even visited the shores of the New World, a thousand years before Columbus. It is probable, from the statement of Herodotus, that the circumnavigation of Africa was really performed by Phœnician mariners; but there is no ground whatever for supposing that it was ever performed by the Carthaginians, or that they ever approached the shores of America. The only really authentic information, as to their navigation, is embodied in the account of the voyage of Hanno along the W. coast of Africa; and it is so very difficult to identify the localities mentioned in it, that some critics assign to it a length of 3,000, and others of not more than 700 miles.

The merit of being the first who, in modern times, drew attention to the *land trade* of the Carthaginians belongs to Heeren, whose researches have placed the connection of Carthage with the central nations of Africa in a clear and striking light. We have already, however, adverted to this interesting subject, and must refer those wishing for more comprehensive details to Heeren's work. It is sufficient here to remark that the internal trade of Africa seems to be alike unchanged and unchangeable. The countries to the S. of the great desert of Sahara are destitute of two most important articles, salt and dates, which abound in the countries N. of the Sahara; while, on the other hand, the S. countries have ample supplies of gold dust, ivory, drugs, gums, and slaves, all articles in great demand along the Mediterranean.

Here are the wants and materials that go to form an extensive and mutually beneficial intercourse; and the oases found in the desert and the camel furnish the means of carrying it on. It is, in fact, carried on at this moment by caravans, neatly in the same manner that it was carried on by the Carthaginians and negroes 2,500 years ago; and the probability is that it will continue in time to come to flow in the same channels.

It is impossible to enumerate the various articles of Carthaginian traffic, seeing that they most probably included the commodities of every known country and climate. The exports from Carthage consisted chiefly of articles of native produce, and of those procured by its land trade from the interior of the continent. She freighted her ships with the wines of Italy, Sicily, and Sardinia, and carried these articles to Cyrene, the Balearic Islands, and W. Africa. She carried on a large trade in oils and other articles, which she sent to Cerne, the 'ultima thule' of her African colonies, and received skins, gold, and ivory in exchange. She procured iron from Elba, alum from the Lipari Islands, and tin from the N. of Spain, the Scilly Islands, and Cornwall. The Baltic supplied her with amber; but whether it was procured by sea, or conveyed overland to the head of the Adriatic, and thence imported into Africa, has not been ascertained. From Tyre, with which she always maintained the most friendly relations, she received not only trinkets, glass, pearls, and other ornaments, and Sidonian cloths, the chief branches of the industry of Tyre itself, but cassia and cinnamon, and the other precious spices, which were imported into Tyre from India. Malta, too, supplied her with articles of woollen manufacture equal if not superior to those of Tyre. Her traffic in slaves, which she procured from the interior of Africa and from Corsica, was most important, and formed a large source of revenue. So abundant were slaves, that, during the second Punic war, Asdrubal is said to have purchased 5,000 at a time. The commercial policy of the Carthaginians has been said to be of a peculiarly grasping, jealous, and selfish character; but it is not entitled to any such distinction, and really differed in very few respects from that of most other commercial nations. Her object was, in as far as possible, to monopolise the trade of the world; and in this view she practised most of the favourite schemes and devices of the mercantile system. The privilege of trading was vested exclusively in the citizens (in contradistinction to the slaves or tributaries of Carthage); no commodities were suffered to be exported or imported except in Carthaginian vessels; the trade of her colonies was restricted to the mother city, and the ships of the foreign nations with whom she had entered into commercial treaties were absolutely excluded from her harbours; but this regulation appears to have been dictated more by political than commercial jealousy.

But though Carthage was from the first a trading city, it would be wrong to regard the Carthaginians as a mere nation of merchants. On the contrary, it is sufficiently proved that they found leisure to engage in other pursuits, among which agriculture held a prominent place. This science, in its widest range, was so well discussed by them in their writings, that the Romans considered them worthy of translation. Nowhere, indeed, was agriculture better understood, or practised with more zeal, than in Carthage; and most families were in the habit of applying the produce of their commerce to the cultivation and improvement of the soil. All accounts concur in assigning a high state of cultivation to the neighbourhood of Carthage. 'The territory,' says Diodorus Siculus (ii.

411.), 'through which Agathocles led his army, was covered with gardens and large plantations, everywhere intersected with canals, by which they were plentifully watered. A continual succession of landed estates was there seen adorned with elegant buildings, which evinced the opulence of their owners. Vineyards, olive-grounds, and meadows spread on every side; and the whole region was thickly studded with the country seats of the wealthy citizens of Carthage and the other towns in its vicinity.'

Revenue.—Our information on this subject is, unfortunately, extremely meagre; but there is little doubt that the revenues of Carthage were more considerable than those of any state of antiquity. They were derived from three sources; the *tribute*, levied on the subject and confederate states; the *customs*, and the *mines*. To what extent tribute was levied in time of peace is unknown; but examples are not wanting to prove that, in cases of urgency, the tributary nations were very heavily taxed. It is a curious fact that the contributions paid by the allied states and the cities along the African coast were in money, and by all the other tributaries in kind. The *customs* were levied with great rigour both in Carthage and in all her colonial ports; and in later times they became so important that they are said to have supplied all the wants of the state without the imposition of any other tax. The *mines* formed an important source of revenue: in working these all the inventions which ingenuity and industry could suggest were rendered available. The most considerable mines were situated in the neighbourhood of Carthago Nova in Spain; they gave employment to 60,000 slaves, and yielded about 50,000 drachms daily. At first they belonged entirely to the state; but we afterwards find them in possession of some of the great families, who worked them on their own account. What use the Carthaginians made of the great quantity of precious metals which they procured from the mines, cannot be ascertained with certainty. The circumstance that no Carthaginian coin has been handed down to us will scarcely warrant the belief that no coined money was employed in Carthage; and though it be true that many, and indeed the most important, expenses of the state were not paid in money, it is highly improbable that a city, whose colonies confessedly coined money, should herself be without a coinage. A singular circumstance connected with this branch of the history of Carthage is the contrivance which they made use of in their colonies, nearly answering the purpose of our paper-money, or bank notes. It consisted of a small piece of leather, stamped by the state, upon which a fictitious value was bestowed, and which could be exchanged at pleasure for the precious metals.

These were the ordinary revenues of the state; but in cases of emergency, the Carthaginians resorted to other means of recruiting their exhausted treasuries, either by procuring foreign loans, by legalising piracy, or by the imposition of a property tax, which should press more heavily on the rich than the poor. But with regard to all that concerns the administration of the revenue, we are still in the dark; though it has been said that one of the pentarchies above mentioned, with a magistrate at its head, formed a board for its management.

Naval and Military Forces.—To maintain the sovereignty of the sea, the chief source of her prosperity, and to protect her commercial marine, as well as to extend her conquests and preserve them, rendered the formation and support of vast fleets and armies indispensable. The ordinary

number of ships or galleys of war possessed by Carthage, at the period immediately preceding the Punic wars, was from 160 to 200. It was increased in the first Punic war, when their naval power appears to have attained its highest pitch; and in the fatal naval engagement by which Rome opened its way to Africa, the Carthaginian fleet consisted of 860 galleys with (but this is no doubt exaggerated) 160,000 men, exclusive of transports. Their war-ships were manned partly by fighting men and partly by rowers; the latter of whom consisted entirely of slaves bought by the state for this particular purpose, and amounting, even in time of peace, to 50,000. But, though the genius and position of Carthage naturally led the citizens to regard the navy as their main bulwark, the wars of conquest in which the republic was perpetually engaged, and the maintenance of its foreign possessions, obliged it to keep large armies continually in the field. These were composed almost entirely of mercenaries, collected from every part of the world, and exhibiting every diversity of blood, complexion, tongue, garb, and weapon. '*Exercitus mixtus ex colluvione omnium gentium quibus non lex, non mos, non lingua communis; alius habitus, alia vestis, alia arma, alii ritus, alia sacra.*' (Livy, 28. 12.) Hordes of half-naked Gauls stood side by side with bands of white-robed Iberians; wild Ligurians were arrayed with far-travelled Nazamones and Lotophagi; Carthaginians and Phœnician Africans formed the centre or main army; Balearic slingers formed the advanced guard; and lines of colossal elephants, with their Ethiopian drivers, preceded their march like a front of moveable fortresses; but the main strength of their army consisted in its light cavalry, which was provided in abundance by the nomadic tribes which flanked their dominions. All these tribes, including the Massyles and the Maurisii, the Numidians, the nomadic races of the Syrtis, the Nazamones and Lotophagi, were accustomed to serve in the Carthaginian armies, and receive their pay. The heavy cavalry were formed from Carthaginian, Libyan, Spanish, and in later times Gallic, levies. In cases of emergency the Carthaginians could raise an army of 40,000 from the citizens alone, besides the battalion called 'the sacred legion,' which consisted entirely of the *élite* of the Carthaginian nobles, and amounted, even in time of peace, to 2,500 men.

Language, Literature, and Religion.—The destruction of the Carthaginian records, which would otherwise have thrown a flood of light, not only on the history of Carthage, but on that of the numerous nations with which she came in contact, must be considered as one of the greatest losses the civilised world has sustained. It has, no doubt, been usual to regard the Carthaginians as wholly immersed in commercial pursuits, and thence to infer that their attainments in literature and the arts must have been very inconsiderable. But there is not so much as the shadow of a foundation for this opinion. So far from commercial pursuits being unfavourable to literature and the fine arts, their effect is distinctly and completely the reverse. The experience of Athens and Corinth in antiquity, of the Italian republics in the middle ages, and of England in modern times, is conclusive as to their humanising influence. Had the literature of the Carthaginians survived the wreck of their empire, we believe it would have been found to be at least as valuable intrinsically as that of Rome, and less exotic. It is worthy of notice that they began their career under the most favourable circumstances. Their descent from the Tyrians, confessedly one of the most civilised nations of antiquity, gave them, as it were, an almost intuitive

knowledge of many of the most useful and ornamental arts and sciences, and placed at once within their reach all those means and contrivances which both facilitate the prosecution of commercial undertakings, and extend the boundaries of civilisation. Surely then it may be reasonably inferred, even in the absence of all monuments of genius, that the rich legacy of their ancestors, increased as it must have been by the intercourse they carried on for seven centuries with the most renowned nations of antiquity, and by the researches and inquiries which their wealth afforded the means of prosecuting, must have produced, in the end, a vast accumulation of science and literature. But, like the city itself, nothing remains of all this. The only traces of the language of Carthage are to be found in a comedy of Plautus, from which it is clear that, like the Phœnician, it formed a branch of the original Asiatic languages, bearing a strong resemblance to the Hebrew, Syrian, and Chaldaic, with a slight admixture of purely Libyan idioms and phraseology. The voyage of Hanno, and a few other fragments, are known to us only through the medium of translations.

Like all colonies, they brought with them the religion of their fathers; but the authentic information respecting it is very limited indeed; and the learned disquisitions of Bochart, Vossius, and Munter, on this subject, have little other foundation than the ingenuity of their authors. It appears, however, that, like the religion of most other Asiatic nations, it was chiefly directed to the worship of the supposed intelligences of the celestial luminaries, and those of the elements. The chief of these were Melcartus or Baal, the Chronos of the Greeks, the Saturn of the Romans, and probably, from the sanguinary rites offered to him, the Moloch of Scripture, and Ashtaroth or Astarte, the goddess of the moon, whom the Greeks identified with their Hera or Juno. The Carthaginians endeavoured, in periods of extreme public calamity, to avert the wrath of the offended deities by offering up some of the noblest children of the state in sacrifice to Saturn; but in less urgent circumstances children of the slaves were the usual victims, and even their immolation was of rare occurrence. It does credit to Gelon, tyrant or king of Syracuse, that having defeated the Carthaginians in a great battle (anno 480 A.C.), he made it a condition of the peace which he granted to them, that they should abolish these sacrifices. But we are not to judge of the civilisation of the Carthaginians by these horrid rites, distinct traces of which may be found in the religious worship of most nations of antiquity. It is rather to be regarded as one of those deplorable exhibitions of superstition and fanaticism which have, under other circumstances, lighted the *autos da fé* of Madrid, and the fires of Smithfield. Of the other Phœnician deities worshipped at Carthage little can be collected. We know, however, that they were by no means bigoted in their attachment to their Phœnician deities; but as their intercourse with other nations extended, frequently introduced the worship of foreign gods.

In conclusion, we may again observe, that the Roman writers, who, while they admit the skill, address, and industry of the Carthaginians, have depreciated all their moral qualities, are authorities on which no reliance can be placed. The lengthened prosperity and great power of Carthage are, in fact, a sufficient refutation of their calumnies. '*Nec tantum Carthago habuisset opum secentos ferè annos, sine consiliis et disciplina,*' is the unwilling admission of Cicero. The Romans, it should be remembered, despised that commerce and industry of which their rivals were the successful

cultivators, holding them to be employments unworthy of freemen, and fit only for slaves and the very dregs of the populace: and in extenuation of their misrepresentations and anti-Punic prejudices, it may be observed, that they knew only the worst part of Carthage, that is, her seamen and soldiers. These, as already seen, consisted of slaves and recruits from all parts of the world, allured to her standards by the prospect of pay and plunder, and held together only by a severe system of discipline. The fact of their performing so many great actions with such materials sets the abilities of the Carthaginian admirals and generals in a very striking point of view. The campaigns of Hannibal, even had his troops consisted wholly of native citizens, and each had felt that the fate of his country depended on his exertions, would have placed him on a level with the most renowned generals of his age. But when we take into account the quality of his troops, and the difficulties he had to contend with in a foreign country, depending mainly on his own resources, and thwarted by faction and jealousy at home, his achievements appear almost miraculous, and place him above all the commanders of antiquity, and perhaps also of modern times.

The last struggle of Carthage was not unworthy of her ancient reputation, and of the great men she had produced. The conduct of the Romans on this occasion was most treacherous and base. They now practised that bad faith (*Punica fides*) and contempt of engagements, of which they had gratuitously accused the Carthaginians, to an extent and with a shamelessness of which history has happily but few examples. But though betrayed on all hands, deceived, without allies, and all but defenceless, Carthage made a brave defence; and all that she had that was brave and really illustrious fell with her fall.

The Romans having glutted their vengeance and quieted their fears by the total destruction of Carthage (a. c. 146), it remained for a while in ruins. But about 80 years after its fall, Caius Gracchus, by order of the senate, carried a colony to Carthage, the first that was founded beyond the limits of Italy. Julius Cæsar, on his return from Africa, settled in it some of his troops and a number of colonists collected from the adjoining country. During the early ages of the Christian era it was regarded as the capital of Africa. It fell under the dominion of the Vandals A. D. 419; and under that of the Saracens in 1698. Under the latter its destruction was again effected; and so completely that it is now *proptius non agnoscenda ruinis*.

CARTHAGENA, or CARTAGENA (an. *Carthago Nova*), a fortified city and celebrated seaport of Spain, prov. Murcia, on the Mediterranean, 17 m. W. Cape Palos, and 32 m. SSE. Murcia, with which it is connected by railway. Pop. 27,106 in 1857. The town occupies the declivity of a hill and a small plain extending to the harbour. It has several good streets and houses, with numerous churches, convents, an arsenal and park of artillery, and a royal hospital of great extent. The W. division of the city is occupied by the naval arsenal, with docks for building men-of-war, and a fine rectangular basin, in which the ships are moored during the time they are being rigged. Adjoining to the arsenal is the *bagne*, or prison for lodging criminals employed on the public works. It has also a founding hospital, a school of mathematics and navigation, an observatory, theatre, and circus. The harbour, which is one of the best in the Mediterranean, consists of a circular basin, opening to the S., and having the city at its N. extremity. It has deep water through-

out; is protected from every wind by the surrounding heights, and by an islet at its entrance; and is, as well as the city, strongly fortified. The excellence of the harbour gave rise to the common saying among the Mediterranean sailors, that there are but three good ports—the months of June and July, and the harbour of Carthage. This has always been the grand rendezvous of the Spanish fleets in the Mediterranean, and large sums have been expended on its naval establishments; but these are now in a state of decay; many houses in the city are also unoccupied; and it has an impoverished, deserted appearance. The pop. is stated by Mr. Townsend to have amounted, in 1787, to 60,000; whereas, according to the census of 1857, given above, it is now under half that amount. Cables and cordage of the *esparto* rush, and canvass, used to be largely manufactured here, and large quantities of barilla, with corn, wine, and oil, were formerly exported. Its trade, however, has declined quite as much as its naval establishments. A valuable fishery is carried on in the port and the adjoining sea.

The city was founded or occupied by the Carthaginians, who made it the capital of their possessions on the E. coast of Spain. It was taken by the Romans, anno 208 B.C., at which period it is said by Livy to have been, next to Rome, one of the richest cities in the world. Its importance in modern times dates from the reign of Philip II.

CARUPANO, a town of Venezuela, very pleasantly situated in the immediate neighbourhood of Cariaco; prov. Cumana. Pop. 8,600 in 1860. It has some trade, especially in horses and mules.

CASALE, an incl. town of N. Italy, prov. Alessandria, cap. dist. of the same name, in a fertile plain, on the Po, 37 m. E. by N. Turin, on the railway from Turin to Milan. Pop. 25,468 in 1862. The place was formerly considered one of the strongest fortresses in Europe, but its ramparts have been converted into public walks, and it is at present defended only by an old castle, once the residence of the marquises of Montferrat. It has a cathedral, several churches with fine paintings, numerous palaces, and handsome private residences, several convents, hospitals, and charitable institutions, a college, public library, theatre, corn magazine, and many silk filatures. It is the residence of the provincial governor, and is the seat of a bishop, and of the prov. court of justice. It originated in the 4th century.

CASAL-MAGGIORE, a town of Northern Italy, prov. Cremona, cap. distr., on the Po, 22 m. SE. by E. Cremona, and 21 m. SW. Mantua. Pop. 15,122 in 1862. The town has manufactures of glass, earthenware, and cream of tartar; with distilleries, tanneries, and numerous mills. It contains a superior and other schools, an hospital, orphan asylum, almshouse, *monte-di-pieta*, and other charitable establishments, and a theatre. Its origin is uncertain, but it existed in the 6th century. It is very liable to suffer from inundations of the Po, by one of which, in 1705, it was laid under water.

CASAL-NOVO, the name of several small towns in Southern Italy. The largest of these towns is situated in the province of Naples, and had a pop. of 8,816 in 1862. This town, in common with most others in the same district, was almost totally destroyed by the dreadful earthquake of 1778; and to guard against the effects of a similar catastrophe in future, the houses are now all low, and of wood.

CASERTA, a town of Southern Italy, cap. of prov. of the same name, in an agreeable plain, 16 m. NNE. Naples, on the railway from Rome to Naples. Pop. 30,311 in 1862. The town is ir-

regularly built, but has several churches, a convent of noble ladies, a *monte di pietà*, an hospital, a military school, and superb barracks. But the pride of Caserta consists in its royal palace, begun in 1724, from the design of the architect Vauvittelli. It is of vast extent; the two principal fronts being each 787 ft. in length, and containing five stories of thirty-seven windows each. The portico, which divides the internal space into four courts, is truly magnificent, as is the staircase leading to the apartments. The vast dimensions of the latter; the bold span of their ceilings; the excellence and beauty of the materials employed in building; and the strength of the masonry, claim the admiration of all beholders. The park is of vast extent, as are the gardens, supplied with water, brought from a great distance by a noble aqueduct. A silk manufacture has been established in buildings attached to the palace, which produces very rich and fine stuffs.

CASHAN, a city of Persia, prov. Irak, in a stony plain, ill supplied with water, 95 m. N. by W. Isfahan; lat. 38° 55' N., long. 51° 17' E. Estimated pop. 30,000. It is one of the most thriving towns in Persia, and is indebted for its prosperity to its extensive manufactures of silk, carpets, and copper wares. The king has a hunting-seat and garden about 3 m. from the town, at the foot of the mountains.

CASHEL, an incl. city and parl. bor. of Ireland, prov. Munster, co. Tipperary, 86 m. SW. Dublin, and 95½ by Great Southern and Western railway. Pop. 5,974 in 1821, and 5,458 in 1861. The city formerly was the residence of the kings of Munster, and in 1442 was made an archbishopric. But by the act for reducing the number of bishoprics in Ireland, Cashel, on the demise of the late prelate, ceased to be an archbishopric, and was united with the bishopric of Waterford. The town is irregularly built, and, with the exception of the main street, and of one or two others, the houses are mean, and exhibit every appearance of poverty. Its supply of water is very scanty. The cathedral and the R. Cath. chapel are modern and spacious edifices. Here is also a convent of nuns and a Methodist meeting-house. The archbishop's palace, a large and well-built mansion, has attached to it a small library, and is surrounded by an extensive pleasure-ground. There is also an infirmary, market and court houses, a well-arranged bridewell, and infantry barracks. The place contains many very interesting relics of antiquity. On the rock of Cashel, which rises precipitously over the city, are the ruins of Cormac McCulinan's chapel, built in the 9th century, and presenting a fine specimen of ancient Saxon architecture; also the ancient cathedral, in the pointed Gothic style, the castle, and a pillar tower, all within an enclosed area, commanding an extensive prospect of the surrounding fertile district. There are some other monastic ruins in the city and its vicinity. The corporation, under a charter of Charles I., in 1639, consists of a mayor, seventeen aldermen, two bailiffs, and an unlimited number of freemen. It returned two mem. to the Irish H. of C., and sends one mem. to the imperial H. of C. Previously to the Reform Act, the right of election was vested in the mayor, bailiffs, aldermen, and six freemen. The boundaries of the present par. bor. extend over 3,974 acres. Registered electors 147 in 1865. The corporation estates comprise 3,278 acres. There are no manufactures of any consequence. Markets on Wednesdays and Saturdays; fairs on 26th March, 7th August, and the third Tuesday in every month.

CASHGAR, or KASCHGHAR, a considerable

city of Chinese Turkestan or Tartary, of which it was formerly the capital, and the farthest W. place of note in the Chinese empire; on the W. side of a mountain, in which several streams have their sources, on one of which the city is placed; 140 m. NW. Yarkund, and 2,250 m. W. by S. Pekin; lat. 39° 28' N., long. 73° 55' E. Pop. said to be about 16,000, exclusive of a garrison of 8,000 Chinese troops. It is surrounded by a wall of earth, entered by four gates, and is divided into two portions—the Mohammedan and Chinese city. The Chinese governor and troops occupy a citadel. Cashgar was much more flourishing and populous before a rebellion which broke out here in 1826. (Burnes's Bokhara, iii. 192.) Most of the inhab. are Mohammedans, and speak a dialect probably of Turkish origin; but there are some Nestorians. (Ritter.) The upper classes are opulent, luxurious, and extravagant; the artisans ingenious in working gold and jasper, in dyeing, and in producing cotton manufactures. There is a weekly market, especially celebrated for horses. Cashgar has a large trade with Bokhara, to which it sends a great deal of inferior tea, porcelain, Chinese silks, raw silk, rhubarb, &c., and from which it receives Russian and other merchandise, including woollen cloths, coral, pearls, cochineal, cloth of gold, velvets, gold and silver wire, ploughshares, mirrors, needles, Russian nankeen, &c. The whole of this trade amounted before the rebellion to 700 or 800 camel loads yearly. The intercourse with Kokan is conducted by means of horses; but it is very small, owing to hostile feelings between the Chinese and the inhab. of that khanat. The trade with the country to the NE. and the Russian town of Semipolatsinsk is brisk, as well as that with Yarkund. Cashgar was a celebrated commercial city before the Christian era. Under the names of Sule, Chajae, &c., it is spoken of by Ptolemy, Ebn Haukal, and many subsequent authors. Its territory is extensive, well watered, fertile in corn, rich fruits, the vine, cotton, flax, and hemp, and contains numerous considerable towns. Under several dynasties it formed an independent kingdom. The Chinese possessed themselves of it about eighty years since. (Ritter, *Asien Erdkunde*, vii. 422, 490; Klapproth, *Mémoires*; *Calcutta Journal*, iv. 655; Burnes; Elphinstone.)

CASHMERE (an. *Caspira*), a prov. of N. Hindoestan, dom. of the maharajah of the Punjab; consisting of the upper valley of the Jhylum, chiefly between lat. 33° 30' and 34° 30' N., and long. 75° and 76° E., having NE. the central chain of the Himalaya or Hindoo Koosh, which separates it from Thibet, and on all other sides secondary ranges belonging to that chain, by which it is divided from the rest of Runjeet Singh's territories. Shape, somewhat oval; length, WNW. to ESE., about 80 m.; breadth of its central plain, varying to 80 m., or, from summit to summit of the opposite mountain chains, 50 to 60 m. Pop. estimated in 1832 at 800,000, but reduced by war, famine, and disease to less than 400,000 in 1860. In 1828, an earthquake destroyed 12,000 people, and, in two months after, cholera followed, by which 100,000 perished in the course of forty days. The Himalaya has here an elevation of from 18,000 to 19,000 ft.; the Pir Panjah, belonging to the opposite chain, is 15,000 ft. above the level of the sea. There are twelve passes into the neighbouring countries, viz. eight to the Punjab, one to the W., and three to Thibet: some of these are open the whole year, and two are 13,000 ft. above the sea. Cashmere is copiously watered; a great number of rivulets and mountain torrents from either side unite in the central valley to form

the Jhyllum, which intersects it in nearly its whole length: many lakes are spread over its surface, the largest of which is nearly 13 m. across. Granite, schist, limestone, gypsum, and slate, are the predominant primitive rocks; some fossil shells have been found in the limestone; good iron is met with in the mountains, and copper and lead are said to exist in Cashmere: the upper soil of the central plain is a rich clay. In some places inflammable gas, which spontaneously ignites, escapes from the ground; and these being reckoned peculiarly holy, temples are built over them. The climate is healthy, except in the rice-grounds in hot weather, and appears to have become milder within a few years, since there are now usually but two or three yards' depth of snow in places where the depth was formerly ten yards. Towards the end of July the thermometer stands at 95° F.: the periodical rains fall only in light showers, but the soil never suffers from drought. The chinara (*Plantanus orientalis*) grows to a great size; fir and deodar forests, walnut-trees, and much jungle, abound on the S. side of the valley; the N. declivities are comparatively bare of trees, but are plentifully covered with grass. European plants in a wild state are common, and fruit-trees numerous, but neither palm, mango, nor orange-trees are found: roses, irides, lotus-flowers, and others are met with in profusion. The elk, and bears of large size, the musk deer, no hares, but plenty of other game, various kinds of serpents, six or seven kinds of fish, and a great variety of insects, are natives of this region. 'Nature has done much for Cashmere—art more; the whole valley is like a nobleman's park; the villages, which are pleasant looking, being surrounded with immense plane, poplar, and fruit-trees, and having between them one sheet of cultivation, 'through which the noble river winds itself in elegant sweeps.' Different kinds of rice are grown, but they do not arrive at any perfection; wheat, barley, and the other dry grains, are more cultivated, and are said to yield a large return; saffron of excellent quality is planted to a considerable extent, and some of it sent even to Yarkund. In the gardens many kitchen herbs of cold countries are grown; turnips are the only produce yielding two crops a year; the apple, pear, plum, apricot, nuts, and an abundance of vines are raised. The wine of Cashmere resembles Madeira, and acquires with age a superior quality; a spirit is distilled from the grape, which is used freely by all classes. The farm implements in use are very inferior; the harrow is unknown, and the clods are broken with a kind of mallet. Neither indigo nor opium is cultivated; the poppy is grown for the sake of its seeds, which are used as food; eight-tenths of the people eat rape-oil, linseed, or sesamum, instead of ghee or butter. Sheep, which are numerous, are used to carry burlens; the other domestic animals are horses, small, but hardy and sure-footed; and cows, which, though ill-shaped, yield excellent butter and plenty of milk: bees are kept on every farm. The principal commercial wealth of Cashmere is derived from its shawl manufacture, which branch of industry is thought to have originated in this valley. The Cashmere shawls are the very best that are made, possessing unequalled fineness, delicacy, and warmth; they are formed of the inner hair of a variety of goat (*Capra hircus*) reared on the cold, dry, table-land of Tibet, from 14,000 to 16,000 ft. above the level of the sea, and which degenerates in any country at a lower elevation. The great mart for the shawl wool is Kilghet, about twenty days' journey N.E. Cashmere, whither it is conveyed on the backs of mountain sheep: its colour varies from white to ashy

grey: about 2 lbs. are obtained from a single goat yearly. At Kilghet the best wool fetches about 1 rupee per lb. In Cashmere, after the down has been carefully separated from the hairs, it is repeatedly washed with rice-starch. This process is reckoned important; and it is to the quality of the water of their valley that the Cashmerians attribute the peculiar and inimitable fineness of the fabrics produced there; the thread is always dyed in rice-water. After the shawls are woven, they are softened at a particular spot near the capital, where most of them are washed with *Kritz*, the root of a parasitical plant: soap is used for white shawls only; the border is attached last. The manufacture of a large and rich pair of shawls, worth 250*l.*, will occupy fifteen men for eight months. The value of Cashmere shawls sold at the annual auction in London is reported to have risen from 103,000*l.* in 1850 to 264,586*l.* in 1860. (Published proceedings of a meeting of shawl merchants, held at Amritsar, 24th August, 1861.) Nevertheless, the number of shawls manufactured in Cashmere is steadily declining. Under the rule of the Moguls there is said to have been 40,000 shawl looms; in the time of the Afghan dynasty, when Forster visited Cashmere, this number had been reduced to 16,000; in 1860, there were no more than 3,000 looms, and two or three men employed at each. The manufacture has not, however, degenerated in excellence. Runjeet Singh took a number of shawls in part payment of his revenue from this province; the amount of which varies considerably, according to the caprice of the maharajah. Little silk is woven; the chief manufactures, next to shawls, are writing paper, lackered ware, cutlery, and sugar, formerly in much greater quantities than at present.

Cashmere is divided into 36 pergunnahs, and contains 10 towns and 2,200 villages; the chief towns are Cashmere, the capital; Chupinian, 3,000 inhab.; Islamabad and Pampur, 2,000 inhab. each. Famine, cholera, and emigration have greatly thinned the population, and rendered many of the villages desert. There are here about 25,000 Brahmans, who are the only Hindoos; they are of a darker colour than the rest of the natives, being descended from a body of colonists from the Deccan. The Cashmerians are a stout, well-formed people, of Hindoo stock, although Mohammedans. Their complexions are what would in France be termed brunette; the women are handsome, prolific, and much sought after by the Mogul nobility of Delhi. The people are brave, active, industrious, lively, and fond of music, literature, and art; but said to be avaricious, cunning, and proverbially false. Their language is a dialect of Sanscrit, but their songs are in Persian. Independent of its celebrity for romantic beauty, Cashmere has been always regarded as a holy land throughout India, and as such has been continually resorted to by pilgrims. The source of almost every brook is adorned with some Hindoo monument; but nearly all the remaining temples appear to be of Buddhist origin, and by their peculiar shape remind the traveller of those of Ellora. Koran-Pandah, near Islamabad, formerly built of black marble, is one of the finest ruins in India. Abul Fazel enumerates 150 Hindoo kings who reigned in Cashmere previously to the year 742 of the Hegira, subsequently to which the Mohammedans and Tartars successively had possession of it. In 1586 it was conquered by Acbar, and Ahmed Shah afterwards annexed it to Caubul. In 1809 the governor asserted his independence: since 1819 Cashmere has belonged to Runjeet Singh. (Elphinstone's Caubul, ii. 237-242; Mr. Davies's Report on the Trade of Central Asia, 1864.)

CASHMERE, or SERINAGUR, the cap. of the above prov., on the Jhyllum, 6,800 ft. above the sea; lat. $33^{\circ} 23' N.$, long. $74^{\circ} 47' E.$ Estimated pop. 55,000. The town extends for about 3 m. on either side the river, over which there are four or five wooden bridges: in some parts the city is 2 m. in width; streets narrow and exceedingly filthy; houses sometimes three and four stories high, the better sort having fire-places and chimneys, with sloping roofs of wooden frame-work, over which there is a layer of earth, which is found very warm during winter, and in summer is covered with flowers. Except a fortress at its SE. quarter, formerly the residence of its governor, Cashmere contains no building worthy of remark. Covered floating baths are ranged along the bank of the river; on the latter many different kinds of flat-bottomed boats are continually plying, bringing rice to the city.

The lake of Dal or Cashmere stretches NE. the city in an oval circuit of 5 or 6 m., and joins the Jhyllum by a narrow channel. It has been much celebrated for its beauties, and contains many small islands, one of which derives its name from the plane-trees which cover it, besides many floating gardens, in which water-melons and other fruits are cultivated: its banks are adorned with the blue lotus and other flowers in large number.

In the plain near the lake one of the Delhi emperors, probably Shah Jehan, constructed a spacious garden.

CASOLI, a town of Southern Italy, prov. Chieti, cap. cant., on a mountain, 12 m. SW. Lanciano. Pop. 6,215 in 1862. It has several churches, and two normal schools.

CASORIA, a town of Southern Italy, prov. Naples, cap. distr., 3 m. NNE. Naples. Pop. 8,990 in 1862. It has four fine churches; is the residence of a *juge d'instruction*, and the birthplace of Pietro Martino, the celebrated painter.

CASPE, a town of Spain, prov. Aragon, in the angle between and near the confluence of the Guadaloupe with the Ebro; 58 m. SE. Saragoessa. Pop. 9,410 in 1857. The town has a castle, a par. church, five convents, and four hospitals; with manufactures of coarse hats, soap, brandy, and cloth. There are in the vicinity extensive plantations of olives and mulberry trees, which yield abundance of oil and silk: and pastures which feed 80,000 sheep. The town is noted for the congress of the Aragonese, Catalonians, and Valencians, held in it in 1412, to settle the succession to the crown, after the death of Don Martin, king of Aragon, without sons; when Ferdinand, son of John I. king of Castile, was chosen to succeed him on the throne.

END OF THE FIRST VOLUME.

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The plan of the fourth edition differs slightly from that of the former ones, but it is more in accordance with the idea on which the dictionary was originally planned, and which was expressed in the name at first designed for the work. The intention of the Editor was to call it a 'Dictionary of Scientific Terms,' and to limit its contents to a brief explanation of an exhaustive list of Scientific words; but after mature consideration it was thought desirable, in carrying the design into execution, to limit the number of words included in the Dictionary, and by extending the length of particular articles to make it a readable book, rather than a mere work of reference. In the present edition it has been the object of the Editors, while retaining the readable character of the work, to diminish the extreme length of some of the articles, and to increase their number; but the total quantity of matter contained in the New Edition

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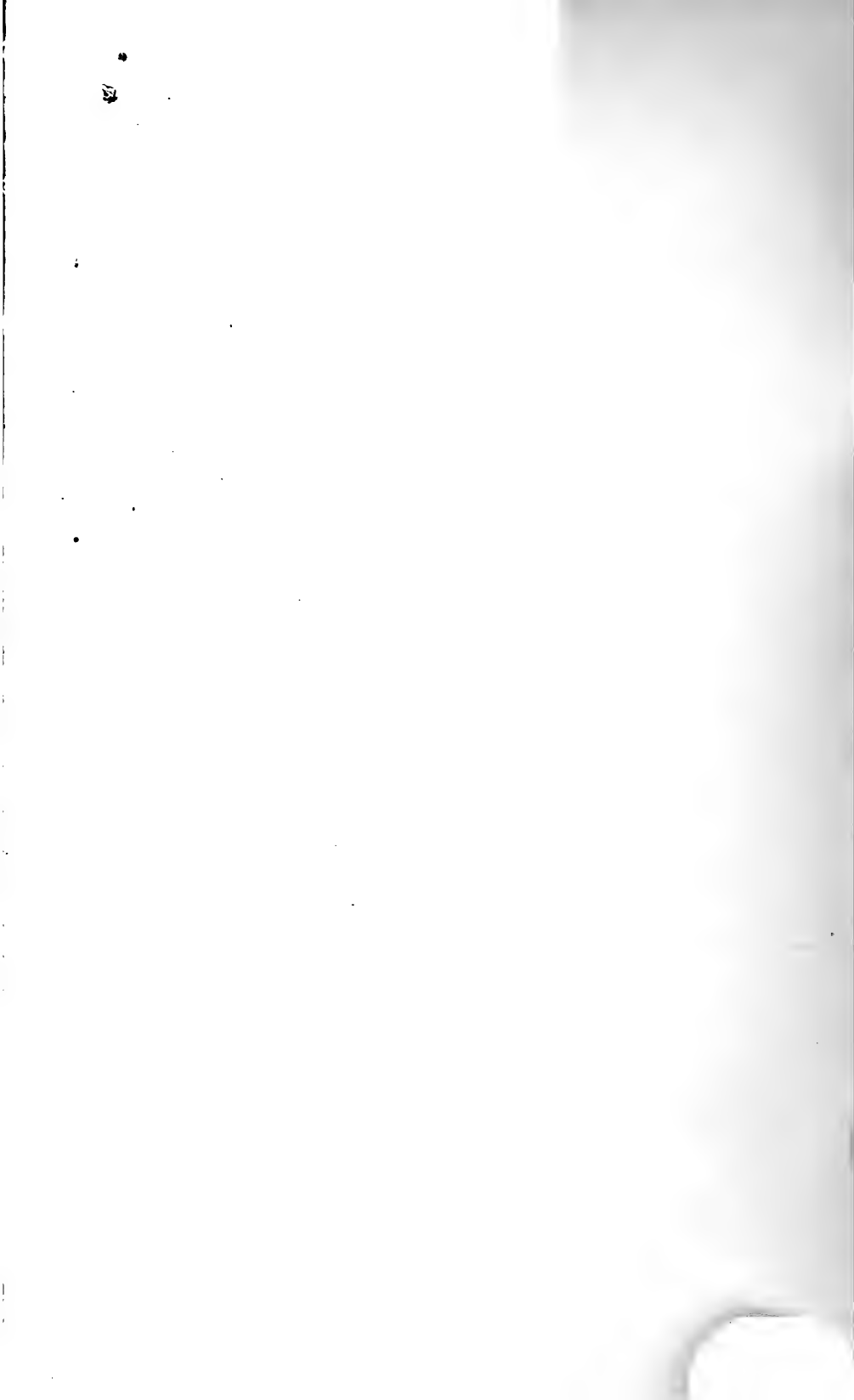
is considerably increased. It has been found that, in many branches of Science, and especially in Mathematics, Physics, Geology, Mineralogy, and Botany, the omission of terms now in common use, which are requisite for students and collectors, somewhat lessened the utility of the work. A large number of new articles have therefore been added in the present edition, and the whole has been brought, as closely as possible, up to the present time. It is not pretended, and indeed it would be impossible, to include all the terms employed in any branch of science, but it is believed that the omissions are few and unimportant, and that, practically, a sufficient number are included to meet the requirements of the general reader and the non-professional student. The progress of historical criticism, and of the Sciences of Comparative Philology and Mythology, has rendered it necessary to rewrite the articles which treated of these subjects, and to add many new ones. In assigning derivations, the Editors have sought chiefly to avoid guess-work; but the principles which have guided them in this part of their task are given in detail in the general preface to the work.

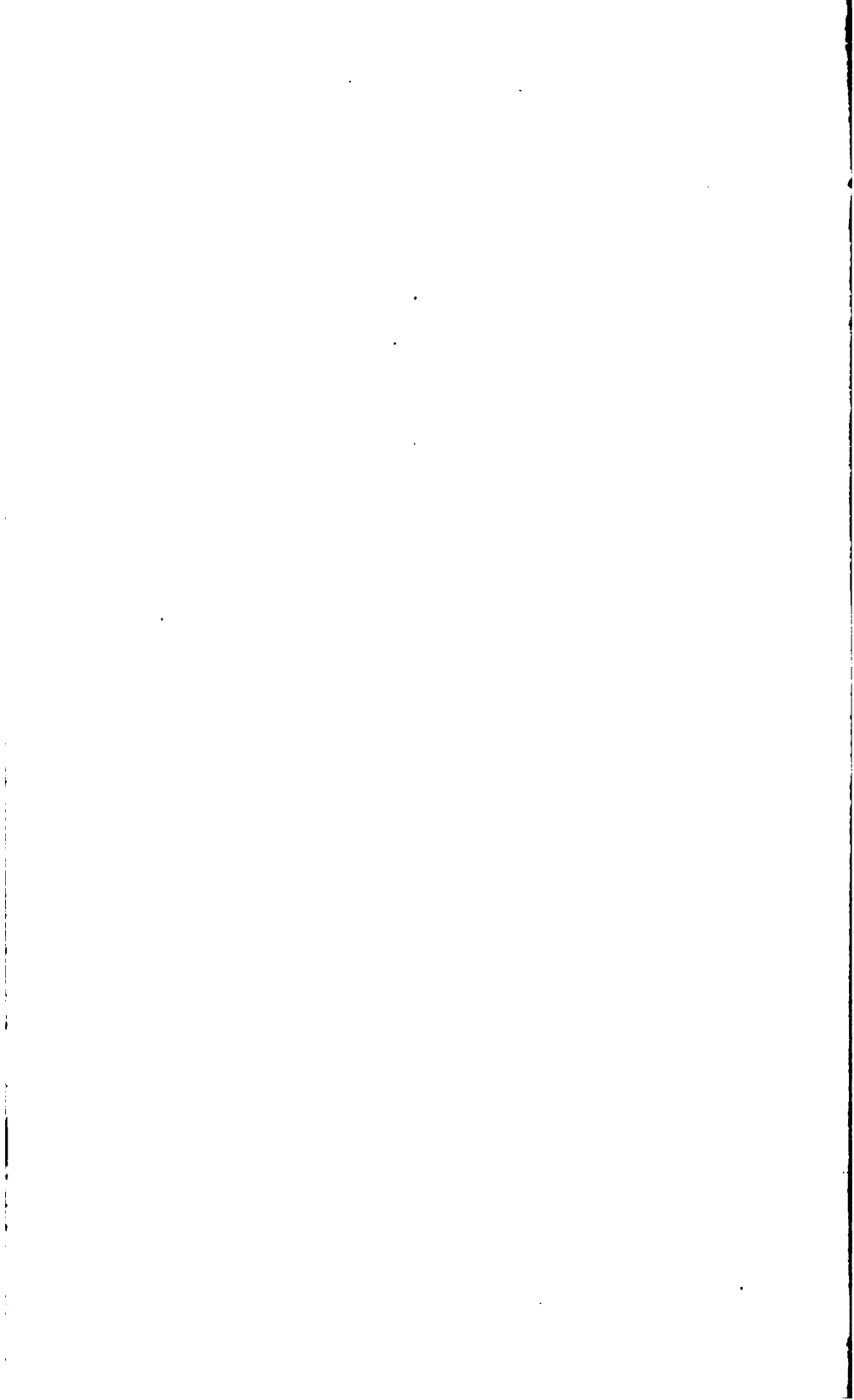
A larger and more legible type has been adopted than that of the previous editions; but although the size of the work has been thereby, and by the large accretion of new matter, extended to three volumes, the price is not increased.

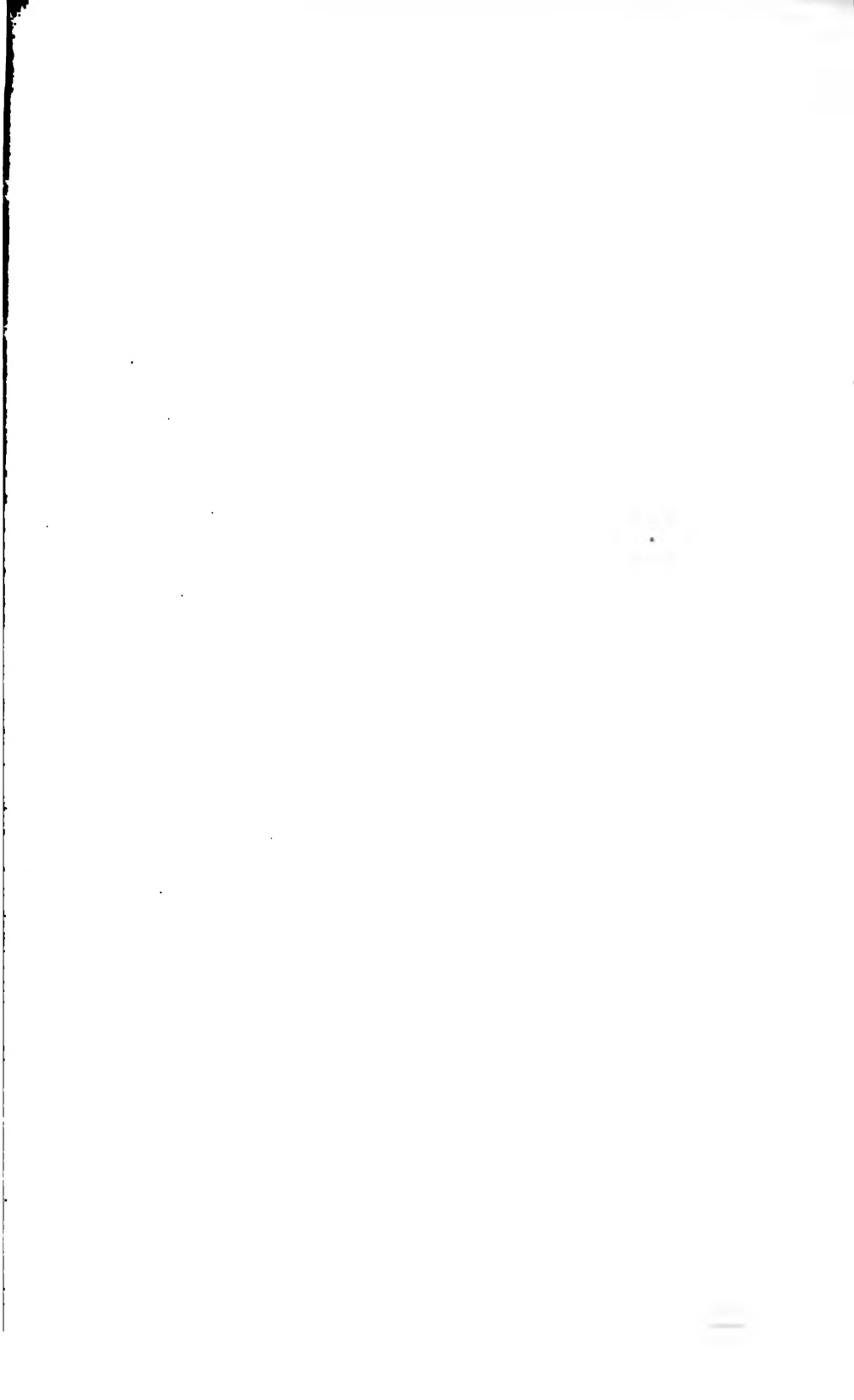
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Military Subjects	Lieut. H. BRACKENBURY, R.A. F.S.A. Assistant-Instructor in Artillery, R. M. Academy, Woolwich.
Mineralogy	HENRY WILLIAM BRISTOW, F.R.S. F.G.S. Hon. Fell. of King's Coll. Lond. of the Geol. Survey of Great Britain.
Music	Prof. W. POLE, F.R.S. Mus. Bac. Oxon.
Naval Subjects	DENHAM ROBINSON.
Navigation	H. W. JEANS, F.R.A.S. R.N. Coll. Portsmouth.
Painting and the Fine Arts	RALPH N. WORNUM, Keeper and Secretary of the National Gallery.
Political Economy	JAMES E. THOROLD ROGERS, M.A. Prof. of Political Econ. Tooke Professor of Economic Science and Statistics in King's Coll. London.
Printing, Bibliography, &c.	R. J. COURTNEY, Superintendent at Messrs. Spottiswoode and Co.'s Printing Office.
Theology and Ecclesiastical Literature	C. MERIVALE, B.D. Chaplain to the Speaker of the House of Commons.

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